**BACKGROUND**

The original RCRA Part A Permit application for the WVDP was submitted to the NYSDEC in June 1990. The WVDP subsequently became an interim status TSDF. In accordance with 6 NYCRR §373-1.3(g), the WVDP continued to update the RCRA Part A Permit application as changes to the WVDP's waste management operations occurred. The most recent updates to the WVDP's RCRA Part A Permit application were submitted to the NYSDEC in March and June 2001. In a November 13, 2001 correspondence from the NYSDEC, the Department stated that "with the incorporation of these additions into the Part A, the modification meets requirements necessary for a change in the WVDP RCRA Part A Permit Application." In addition, a letter providing supplementary information for interim status tank treatment and storage activities at the WVDP was submitted to the NYSDEC on September 4, 2002.

The June 2001 RCRA Part A Permit application includes two attachments and six figures, including: (1) a WVDP site map, (2) a surface water runoff map, (3) a map of groundwater wells and hydrology, (4) and (5) United States Geological Survey (USGS) topographic quadrangle maps, and (6) a facility drawing (consisting of the site map re-plotted at an 11-inch by 17-inch drawing size). These maps are provided in Appendix A-1 within the June 2001 revised RCRA Part A Permit application.

To provide the information required for this permit application, including WVDP updates to the waste management activities, a set of 12 figures (Figures B-1 to B-12) are being submitted as referenced in Sections A and B of this document. Table B-1, in Section B, identifies these 12 maps on which the §373-2 Permit Checklist required data can be found. These maps are included at the end of Section B. Discussions of the site information shown on these figures are included in Sections A and B.

It should be noted that, although some of the 12 figures look similar to those submitted in the June 2001 RCRA Part A Permit application, the figures presented in this submittal provide site information updated as of September 30, 2004. The requirements of 6 NYCRR §§373-1 and §373-2, *Hazardous Waste Treatment, Storage, and Disposal Facility Permitting Requirements* and *Final Status Standards for Owners and Operators of Hazardous Waste Treatment, Storage, and Disposal Facilities*, respectively, have been met in the preparation of the figures included in this permit application.

**INTRODUCTION**

The June 2001 RCRA Part A Permit application data is accurate with the primary exception of facility process changes associated with completion and discontinuation of the vitrification process, and deactivation or isolation of high-level waste (HLW) tanks 8D-1 and 8D-2 (including the Supernatant Treatment System [STS] present in tank 8D-1). In addition, there have been changes in the WVDP footprint since the June 2001 RCRA Part A Permit application was approved, including the construction of the Remote-Handled Waste Facility (RHWF).

The RCRA Part A Permit application information (i.e., EPA Form 8700-23) is summarized in Sections A-1 through A-19. Sections of the June 2001 RCRA Part A Permit application discussed below also present updated administrative information, as indicated for this submittal. This updated information and clarification do not meet the requirements of 6 NYCRR §§373-1.3(g), *Updating Interim Status Applications*, or (i), *Changes During Interim Status*; therefore, a modification of the June 2001 RCRA Part A Permit is not required. The June 2001 RCRA Part A Permit application is presented in Appendix A-1. In addition, the September 4, 2002 correspondence from DOE to NYSDEC presenting supplementary RCRA Part A Permit information is presented in Appendix A-2.

**WEST VALLEY DEMONSTRATION PROJECT FACILITY BOUNDARY, OWNER AND OPERATORS**

In this application, the term "facility," which is used interchangeably with "WVDP" or "Project premises," refers to the area within the WNYNSC as defined by the New York State-licensed land surveyor's certified legal description and the *West Valley Demonstration Project* boundary map, both of which are included in Appendix B-2 of Section B of this application. Therefore, this hazardous waste permit application only applies to the hazardous waste management units and solid waste management units (SWMUs) within the WVDP boundary for which DOE has authority under the *West Valley Demonstration Project Act of 1980*, Public Law 96-368 (S. 2443), dated October 1, 1980 (WVDP Act). The owner of the WNYNSC, including the WVDP, is the NYSERDA. The DOE and WVNSCO are co-operators of the WVDP in accordance with the footnote to Section XVIII. Certification, of the 2001 WVDP Part A Permit Application (Appendix A-1) and the provisions and limitations of the WVDP Act and the March 1992 *Administrative Order on Consent, Docket No. II RCRA-3008(h) - 92-0202, Proceedings under Section 3008(h) of the Resource Conservation and Recovery Act* (WVDP 3008(h) Consent Order) as follows:

- Section IV. Findings of Fact. 9. Facility. d. specifies: ". . . DOE asserts that it has no authority under the WVDP Act with respect to those portions of the Facility not used pursuant to the WVDP Act and that it does not generally have authority under the WVDP Act for disposition of facilities beyond the WVDP."

- The respective duties of the site owner and operator are specified in Section VI. Order: Work to Be Performed by DOE and NYSERDA. 8. Coordination of Activities. a) as follows: "DOE and NYSERDA will jointly conduct the RFI and CMS required under this Order. DOE and NYSERDA intend to complete these activities as part of the joint EIS process."

- The Order also provides for the reservation of rights for the owner and operator pursuant to Section XV. Reservation of Rights. 8. "Nothing in this Order and no determinations made or action taken (including any failure to act) pursuant to the Order, including, without limitation, any determination or resolution resulting from Dispute Resolution under Section XIX, shall constitute an admission or evidence of an admission by Respondents or otherwise constitute an adjudication of any fact or conclusion of law, except in an action or proceeding by EPA to enforce the terms of this Order, nor shall anything in this Order release, waive, or otherwise affect or diminish any right, defense, authority, responsibility, immunity or claim for relief which NYSERDA or DOE may have against the other (or any person or entity not a part to this Order) under applicable provisions of law or contract, including, without limitations, NYSERDA and DOE's respective rights, authorities and responsibilities under the WVDP Act or the Cooperative Agreement."

The *West Valley Demonstration Project Act of 1980*, Public Law 96-368 (S. 2443), October 1, 1980, limits the DOE's mission at the WVDP to the following:

- Solidify, in a form suitable for transportation and disposal, the high level radioactive waste at the Center by vitrification or by such other technology which the Secretary determines to be most effective for solidification.

- Develop containers suitable for the permanent disposal of the high level radioactive waste solidified at the Center.

- Transport, in accordance with applicable provisions of law, the waste solidified at the Center to an appropriate Federal repository for permanent disposal.

- In accordance with applicable licensing requirements, dispose low level radioactive waste and transuranic waste produced by the solidification of the high level waste under the project.

- Decontaminate and decommission the tanks and other facilities of the Center in which high level radioactive waste solidified under the project was stored, the facilities used in the solidification of the waste, and any material and hardware used in connection with the project in accordance with such requirements as the U.S. Nuclear Regulatory Commission (NRC) may prescribe.

Therefore, as co-operators of the WVDP, both the DOE and its management and operating contractor, WVNSCO, have certain rights, authorities, duties, responsibilities, and limitations for certain wastes, facilities, and premises located at the WVDP. Submission of this application is not intended to affect the respective interests of the DOE and WVNSCO as co-operators of the facility or of NYSERDA, as the holder of record title to the WNYNSC on behalf of the State of New York.

**A-1 EPA I.D. NUMBER**

| | | |
|---|---|---|
| a. | First Part A Submission: | Not Applicable |
| b. | Part A Amendment #: | 3 |
| c. | Installation's EPA I.D. Number: | NYD980779540 |

There has been no change in this information.

**A-2 NAME OF FACILITY**

Name of Facility: West Valley Demonstration Project

There has been no change in this information.

**A-3 FACILITY LOCATION ADDRESS**

| | | |
|---|---|---|
| a. | Street Address: | 10282 Rock Springs Road |
| | City/Town/Zip Code: | Ashford, New York 14171-9799 |
| | County Code/County: | 009/Cattaraugus |
| b. | Land Type: | S (state) |
| c. | Geographic Location: | 42° 27' 29" N, 78° 39 15" W |
| d. | Facility Existence Date: | 02/22/1982 |

There has been no change in this information.

**A-4 FACILITY MAILING ADDRESS**

| | |
|---|---|
| Street: | 10282 Rock Springs Road |
| City/State/Zip Code: | West Valley, New York 14171-9799 |

There has been no change in this information.

**A-5 FACILITY CONTACT**

| | |
|---|---|
| Name: | Moira Maloney |
| Job Title: | Environmental Scientist |
| Phone Number: | (716) 942-4255 |

There has been no change in this information.

**A-6 FACILITY CONTACT ADDRESS**

No information was provided in the permit application.

The facility contact address is the same as the facility operator address.

There has been no change in this information.

**A-7 NAME OF OPERATOR**

| | | |
|---|---|---|
| a. | Name: | U.S. Department of Energy |
| | Street: | 10282 Rock Springs Road |
| | City/State/Zip Code: | West Valley, New York 14171-9799 |
| | Phone Number: | (716) 942-4312 |
| b. | Operator Type: | F (Federal) |
| c | Change of Operator: | No |
| | Date Changed: | Not Applicable |

Additional Information: WVNSCO has been included in the 6 NYCRR §373-2 permit application as a co-operator along with the DOE. The following information on the co-operator is provided:

| | | |
|---|---|---|
| d. | Name: | West Valley Nuclear Services Company, LLC |
| | Street: | 10282 Rock Springs Road |
| | City/State/Zip Code: | West Valley, New York 14171-9799 |
| | Phone: | (716) 942-4750 |
| e. | Operator Type: | P (Private) |
| | Change of Operator: | No |
| f. | Date Changed: | Not Applicable |

**A-8 FACILITY OWNER**

| | | |
|---|---|---|
| a. | Legal Owner | New York State Energy Research and Development Authority |
| | Address: | New York State Energy Research and Development Authority |
| | Street: | Corporate Plaza West, 286 Washington Avenue |
| | City/State/Zip Code: | Albany, NY 12203-6399 |
| | Phone Number: | (518) 862-1090 |
| b. | Operator Type: | S (State) |
| c. | Change of Owner: | No |
| | Date Changed: | Not Applicable |

Additional Information: The new address and street information for NYSERDA is now 17 Columbia Circle.

**A-9 SIC CODES**

Additional Information:

| | |
|---|---|
| SIC Code: | 9999 = Other |
| NAICS Code: | 541710 = Research and Development in the Physical, Engineering, and Life Sciences |

**A-10 OTHER ENVIRONMENTAL PERMITS**

See (RCRA Part A) Attachment

Additional Information: Updated environmental permit information is provided in Section J, Table J-3.

**A-11 NATURE OF BUSINESS**

There has been no change in this information.

## A-12 PROCESS CODES AND DESIGN CAPACITIES

Process Code and Design Capacities:

S01 Container Storage - 3,975,785 gallons, 14 units
S02 Tank Storage - 1,530,000 gallons, 4 units
S06, T94 Containment Building Treatment and Storage - 1,910 $yd^3$, 1 unit
T01 Tank Treatment - 1,700 gal/day, 5 unit

Additional Information: A correspondence dated September 4, 2002 provides supplementary information regarding design capacities.

## A-13 OTHER PROCESSES

Other Processes: T04 HLW Vitrification - 60 gpd
T04 Treatment in Containers, Treatment of Debris, Stabilization or Pretreatment of Liquid Wastes - up to 1,000 gpd, 14 units

Additional Information: As stated in Section A, *Background*, the solidification of HLW by vitrification has been completed.

## A-14 DESCRIPTION OF HAZARDOUS WASTES

| Hazardous Waste Type | Estimated Annual Quantities | Process Codes |
|---|---|---|
| D002, and D005 thru D011(Inclusive) | 3,042 tons | T01, S02, T04 |
| B001 thru B007 (Inclusive), D001 thru D043 (Inclusive), F001 thru F039 (Inclusive), P001 thru P205 (Inclusive), and U001 thru U411 (Inclusive) | 28,219 tons | S01, T04 |
| B001 thru B007 (Inclusive), D001 thru D043 (Inclusive), F001 thru F039 (Inclusive), P001 thru P205 (Inclusive), and U001 thru U411 (Inclusive) | 216 tons | S06, T94 |

Process descriptions are provided in Attachment B, Section XI, *RCRA Unit Summary,* of the June 2001 RCRA Part A Permit application (Appendix A-1).

There has been no change in this information.

## A-15 MAP

There has been no chance of information in the figures provided in the June 2001 submittal of the RCRA Part A Permit Application; however, to meet the regulatory requirements of 6 NYCRR §373-1.2 and §373-1.5, additional figures are presented as part of this permit application, as discussed below.

Site map requirements per checklist items A-15 and A-16 are presented on:

- Figure B-1, *USGS Topographic Map - Ashford Hollow, West Valley, Springville, and Sardinia Quadrangles*
- Figure B-2, *WVDP Site Map*
- Figure B-3, *Groundwater Wells and Surface Water Features*
- Figure B-4, *Site Storm Water Drainage Map*
- Figure B-5, *Additional WNYNSC Storm Water Drainage.*

Table B-1 is a cross-reference for the requirements of the §373-2 Permit Checklist.

The following subsections provide further explanations regarding the information presented on Figures B-1 through B-5.

a. **Property Boundaries/Outline of Facility** - For purposes of this permit, the property boundary is defined as the boundary of the WNYNSC property and the facility is defined as the WVDP. The legal definitions, as provided by a New York State-licensed land surveyor, for the WNYNSC and the WVDP are provided in Appendices B-1 and B-2, respectively. Figure B-1 in Section B includes the area one mile beyond the WNYNSC property line. The WVDP facility footprint is shown on Figure B-2, *WVDP Site Map*, including buildings and roads.

b. **Existing and Proposed Intake and Discharge Structures** - The only intake structure associated with the WVDP is located on the northeastern side of Man-Made Water Supply Reservoir #2, shown on Figures B-3 and B-5. There are three State Pollutant Discharge Elimination System (SPDES)-permitted discharge structures associated with the WVDP as shown on Figure B-4, which include an outfall for Lagoon 3 discharge weir, and process water; an outfall for the sanitary waste discharge; and an outfall for the french drain discharge (which has been closed off). There is a discharge pipe present in the bedding material associated with this former outfall that is periodically monitored. There are also four former groundwater outlet points (which have been closed off) located east of Lagoon 3 that were used to drain surface and groundwater associated with the roadway east of Lagoon 3. A groundwater outlet is present east of Lagoon 3, near the former french drain outfall, that drains a surface berm immediately north of Lagoon 3. Internal process waters are eventually discharged through Lagoon 3. In addition to the three SPDES-permitted discharge structures, there are 13 permitted storm water drainage outfalls on the WVDP (Figure B-4) and seven permitted outfalls on the WNYNSC (Figure B-5), for a total of 20 under the existing SPDES permit.

c. **Hazardous Waste Treatment and Storage Facilities** - There have been several changes in hazardous waste treatment and storage facilities at the WVDP since the original RCRA Part A permit application was submitted. The current treatment and storage areas are shown on Figure B-4 as pink shaded areas.

d. **Underground Injection and Extraction Wells and Water Supply Wells** - There are no permitted underground injection wells on the WVDP. However, one test underground injection well (Figure B-1) was drilled to a depth of 1,500 feet (ft) (458 meters [m]) approximately 3,000 ft (915 m) east of the WVDP by Oak Ridge National Laboratory (ORNL) in 1969 for the purpose of conducting hydraulic fracture experiments. Four monitoring wells were also drilled within 150 ft (46 m) of the injection well. Water tagged with Zirconium-95 (Zr-95) was injected to trace groundwater migration through bedrock fractures. Zr-95 was chosen because of its high decay rate; after 2 years only 0.04% would remain. No waste or long-lived radioactive material was ever injected into these wells. In addition to the water tracer tests, one grout injection test was performed in July 1971. At the end of the experiments in 1971, the injection well was backfilled to a depth of 45 ft (14 m) and capped. All four monitoring wells were also capped. In 1989, Dames and Moore investigated these wells for environmental contamination. This study concluded that the injection well and the surrounding bedrock were free of any radioactive contaminants.

There are three active withdrawal wells in the North Plateau Groundwater Recovery System (NPGRS) that are used to extract

groundwater from the strontium-90 groundwater plume. These withdrawal wells are shown on Figure B-3.

There is also a 24-inch-diameter dewatering well present in the Waste Tank Farm (Figure B-3). The dewatering well was intended to be used for control of groundwater levels around tanks 8D-1 and 8D-2. Generally, this well has been periodically (once every other week) pumped for dewatering in the vicinity of tanks 8D-1 and 8D-2 since 1964. In September 1996, an unregulated injection was performed into the dewatering well during an excavation activity in the Waste Tank Farm. This activity was addressed by revising procedures to perform hydraulic control in the Waste Tank Farm through the dewatering well. There are also eight monitoring water-level standpipes, four each around tanks 8D-1 and 8D-2, used for monitoring of the groundwater levels around these tanks.

The domestic water supply wells, located within one-quarter mile of the WNYNSC property boundary, are located on Figure B-1.

e. **Springs, Rivers, and Surface Water Bodies** - Surface water features associated with the WVDP can be seen on Figures B-1 through B-5. Surface water from the WVDP drains to Frank's Creek, Erdman Brook and Quarry Creek, all of which discharge to Buttermilk Creek and then to Cattauragus Creek and subsequently to Lake Erie. Two man-made water supply reservoirs exist south of the WVDP. North of the WVDP are several constructed intermittent surface water pond areas. These are delineated within the wetlands areas shown on Figure B-3.

Man-made wastewater treatment lagoons (i.e., Lagoons 2, 3, 4, and 5) on the WVDP (Figures B-3, B-4, and B-5) are operated under an existing SPDES permit. Lagoon 1 was taken out of service in 1984. It was backfilled and capped with 1.5 ft of clay (0.5 m) and 1.5 ft (0.5 m) of topsoil.

The design capacity of Lagoon 2 is 2,400,000 gallons (gal) (9,084,000 liters [L]) and is approximately 17 ft (5.2 m) deep (RCRA Facility Investigation, Vol. 4, Low-Level Waste Treatment Facility [LLWTF], 1997). This lagoon was excavated through the upper 2 ft to 7 ft (0.6 m to 2.1 m) of the underlying Lavery till. Water levels in the lagoon are maintained below the sand and gravel/Lavery till contact to limit migration of wastewater into the adjacent sand and gravel aquifer. Lagoon 2 primarily receives water from the interceptors, which are below grade concrete tanks used to manage plant effluent.

Lagoon 3 has the same horizontal dimensions as Lagoon 2 but is deeper, with a design capacity of 3,300,000 gal (12,491,000 L). Lagoon 3 was excavated 9 ft to 14 ft (2.7 to 4.3 m) into the underlying Lavery till to a depth of 24 ft (7.3 m). Process surface water in this lagoon is also maintained below the till/sand and gravel aquifer contact to prevent outflow of contaminated water into the aquifer. Lagoon 3 receives wastewater from Lagoons 4 and 5, and discharges five to twelve times per year to Erdman Brook via SPDES-permitted outfall 001.

Lagoons 4 and 5 are much smaller than Lagoons 2 and 3 with design capacities of 240,000 and 185,000 gal (908,400 and 700,225 L), respectively. These lined lagoons receive treated wastewater from the new Low-Level Waste Treatment Facility (LLW2). These lagoons are used as holding reservoirs to allow monitoring of radioactive concentrations in the treated wastewater prior to release. If the radioactivity is less than DOE-derived concentration guides for uncontrolled release (in

accordance with DOE Order 5400.5), the wastewater in Lagoons 4 and 5 would then be routed to Lagoon 3 and eventually discharged to Erdman Brook.

**A-16 FACILITY DRAWINGS**

Facility drawings in the June 2001 RCRA Part A Permit application have not been revised. However, similar figures are presented in this permit application that build upon the information presented in the Part A permit drawings.

**A-17 PHOTOGRAPHS**

There has been no change in this information.

**A-18 CERTIFICATIONS**

There has been no change in this information.

**A-19 COMMENTS**

There has been no change in this information.

# APPENDIX A-1

## WVDP'S RCRA PART A PERMIT APPLICATION (JUNE 2001)

**New York State Department of Environmental Conservation**
**Division of Environmental Permits, Region 9**
270 Michigan Avenue, Buffalo, New York, 14203-2999
**Phone:** (716) 851-7165 **FAX:** (716) 851-7168
**Website:** www.dec.state.ny.us

Erin M. Crotty
Commissioner

Moira/Elizabeth/file

November 13, 2001

Ms. Alice Williams, Director
U.S. Department of Energy
West Valley Demonstration Project
10282 Rock Springs Road
West Valley, NY 14171-9799

Dear Ms. Williams:

**6NYCRR PART 373 INTERIM STATUS CHANGE**
**MOD RCRA PART A APPLICATION**
**WEST VALLEY DEMONSTRATION PROJECT (WVDP)**
**EPA ID NO. NYD980779540/ DEC ID NO. 9-0422-00011**

On March 6, 2001, the U.S. Department of Energy submitted a Modified RCRA Part A Permit Application to reflect changes to the facility during the interim status of that application. The requested change is pursuant to 6NYCRR Part 373-1.3 (g)(1)(iii)('b'), and the change is necessary to comply with Federal, State or local requirements. In this case, it is to comply with the requirements of the West Valley Demonstration Project Act of 1980 and portions of the Federal Facility Compliance Act enacted in 1992. In addition, minor administrative and technical changes and updates have been included.

At the Department's request, additional information was supplied in a letter dated June 29, 2001 to supplement the modification. With the incorporation of these additions into the Part A, the modification meets the requirements necessary for a change in the WVDP RCRA Part A Permit Application.

In the future, when various environmental review assessments and engineering reports are developed for project modifications, including draft supplemental EIS's, please transmit copies to Mr. Richard Sweeney, Division of Environmental Permits, so that we will have a better understanding of what you are proposing to do in the future at the West Valley facility.

Should you have any questions regarding this issue, please contact Mr. Krajewski at 716/851-7220 or Mr. Sweeney or me at the number above. Thank you very much for your cooperation.

Respectfully,

Steven J. Doleski

Steven J. Doleski
Regional Permit Administrator

SJD:vam
cc: Mr. Jack Krajewski, NYSDEC, Division of Solid & Haz. Materials, Region 9
Mr. Timothy DiGiulio, NYSDEC, Division of Solid & Haz. Materials, Syracuse
Mr. James Reidy, USEPA Region II
Mr. Paul Piciulo, NYSERDA
Ms. Colleen Gerwitz, NYSERDA
Ms. Elizabeth Lowes, USDOE WVDP
Ms. Moira Maloney, USDOE WVDP

| Post-it® Fax Note 7671 | Date 11/13/01 | # of pages ▸ 1 |
|---|---|---|
| To Moira Maloney | From Rich Sweeney | |
| Co./Dept. WVDP | Co. NYSDEC | |
| Phone # | Phone # 716/851-7165 | |
| Fax # 716/942-4702 | Fax # | |

**Department of Energy**
Ohio Field Office
West Valley Demonstration Project
10282 Rock Springs Road
West Valley, NY 14171-9799



DW:2001:0461

June 29, 2001

Mr. Steven Doleski
Regional Permit Administrator
New York State Department of
Environmental Conservation
270 Michigan Avenue
Buffalo, NY 14203-2999

SUBJECT: Incorporation of New York State Department of Environmental Conservation (NYSDEC) Comments into Part A Application Modification and Request for Approval

Dear Mr. Doleski:

Thank your for the Department's prompt and thorough review of the modification to the West Valley Demonstration Project (WVDP) Part A Interim Status Application which was submitted in March 2001 in accordance with the requirements of 6 NYCRR 373-1.3(g).

On April 11, 2001, West Valley Nuclear Services Company (WVNS) personnel met with Mr. Jack Krajewski of NYSDEC-Region 9 to discuss comments on the maps and figures associated with Part A Application. All of the changes requested by Mr. Krajewski were incorporated and the new maps and figures reviewed with him at a subsequent meeting held on May 21, 2001. A change to the text resulting from a conservative error noted on the spill containment capacity for the Hazardous Waste Storage Lockers was also reviewed at that time.

The affected page changes resulting from these meetings are noted below and are enclosed to allow for replacement into the complete Part A Modification package transmitted to your office on March 6, 2001.

- Part A Application, Attachment B, Section XI, RCRA Unit Summary, page 14;
- Part A Application, Attachment C, Section XV, Map No. 2 (Surface Water Runoff);
- Part A Application, Attachment C, Section XV, Map No. 3 (Wells and Hydrology); and
- Part A Application, Attachment E, Section, XVII, Photo No. 1 (Site Aerial - 1999).

We respectfully request your written approval of the revised Part A Interim Status Application.

If you have any questions, please contact Moira Maloney at (716) 942-4255.

Sincerely,

Alice C. Williams, Director
West Valley Demonstration Project

Enclosure: Revised Pages, RCRA Part A Application

cc: H. R. Moore, OH/WVDP, WV-DOE, w/o enc.
J. Krajewski, NYSDEC, Region 9, w/enc.
T. I. DiGiulio, NYSDEC, Albany, w/enc.
J. Gorman, EPA, Region II, w/enc.
H. Brodie, NYSERDA, Albany, w/enc.
C. L. Gerwitz, NYSERDA, WV-17, w/enc.
P. L. Piciulo, NYSERDA, WV-17, w/o enc.
R. R. Campbell, WVNS, WV-07, w/o enc.
G. F. Centrich, WVNS, WV-B1A, w/enc.
J. R. Gerber, WVNS, AOC-24, w/o enc.
S. A. MacVean, WVNS, WV-B1D, w/o enc.

MNM:0373 - 78218 - 452.3

MNM/sdm

**Department of Energy**
Ohio Field Office
West Valley Demonstration Project
10282 Rock Springs Road
West Valley, NY 14171-9799

March 6, 2001

Mr. Steven Doleski
Regional Permit Administrator
Division of Regulatory Affairs
New York State Department of
Environmental Conservation
270 Michigan Ave
Buffalo, NY 14203-2999

SUBJECT: Modifications to the Resource Conservation and Recovery Act (RCRA) Part A Permit Application for the West Valley Demonstration Project (WVDP) - U.S. Environmental Protection Agency (EPA) ID Number NYD980779540

Dear Mr. Doleski:

Enclosed is a revised RCRA Part A Permit Application for the WVDP (EPA ID Number NYD9800779540), located in West Valley, New York. All of the proposed modifications are in accordance with 6 NYCRR 373-1.3(g) which allows changes in or additions to the processes for the treatment or storage of hazardous waste during interim status "... to comply with a Federal, State, or local requirement."

The proposed changes to the WVDP interim status are necessary to complete the requirements of the WVDP Act of 1980 (Pub. L. No. 96-368) with respect to the WVDP site decontamination and decommissioning (D&D) activities. These activities may generate additional mixed waste requiring treatment, storage and disposal. The proposed changes will also enable the WVDP to implement the Site Treatment Plan (STP) requirements under the Federal Facility Compliance Act (FFCA) (Pub. L. No. 102-386, 106 Stat. 1505) enacted in 1992 as an amendment to RCRA. The FFCA mandated the WVDP to develop and implement the WVDP STP in accordance with the FFCA Consent Order. The STP, describing the development of treatment capacities and technologies for treating mixed waste, was approved by New York State Department of Environmental Conservation (NYSDEC) in 1996, and is updated annually. The STP milestones require the WVDP to either treat or pre-treat mixed waste on site or use off-site treatment, storage, and disposal facilities. The proposed modifications to the Part A Permit Application were made to reflect the following:

A. Administrative changes:

- Page 1 of the EPA Form 8700-23; Sections III, IV, and V include address and title updates. Note that the WVDP is legally located in the Town of Ashford even though the mailing address is West Valley;

- Page 2 of the EPA Form 8700-23; Sections VII and VIII include address updates; Section X was updated (included as an attachment to the EPA Form);

- Page 7 of the EPA Form 8700-23; Section XVIII was revised to update the names and titles of the Certification Officials and to change company name to "West Valley Nuclear Services Co. LLC." Also, minor editorial changes were made to the footnote;

- Page 7 of the EPA Form 8700-23; Sections XV through XVII were modified by including:

  - The site map depicting existing and proposed interim status units, facility features, and topography;

  - The RCRA Unit Summary: two new figures for the location and future layout of the Remote Handled Waste Facility (RHWF), currently under construction;

  - An updated site surface water run-off (drainage) map; an updated map depicting site wetlands, surface waters, and wells; and a computer rendition of the future RHWF;

  - A composite of 1999 aerial photographs of the WVDP depicting the interim status treatment and storage units as described in the RCRA Unit Summary; and

  - An aerial photograph with a computer rendition overlay depicting the future location of the RHWF and surrounding facility features.

B. Technical changes:

- Page 4 of the EPA Form 8700-23; Section XII was revised and the corresponding narrative in the enclosed RCRA Unit Summary was modified as follows:

  - Container storage unit (S01) was added for the Contact Size Reduction Facility (CSRF), for temporary storage to facilitate sorting/repackaging/sampling of mixed wastes as required to satisfy the STP milestones;

- Container storage code (S01) was added for the Vitrification Facility; including Interim High-Level Waste (HLW) Storage Facility, Vitrification Cell, and Analytical Lab Hot Cells; for potential future storage of high-activity mixed wastes and sample residues generated from Vitrification Expended Material Processing (VEMP), cleaning of the head-end cells (HEC), ongoing and future decontamination and decommissioning (D&D) projects;

- Tank storage code (S02) was added to two HLW treatment tanks (T01): 8D-1 and 8D-2 to provide for temporary storage of tank residues and/or high activity sodium waste after completion of the vitrification treatment and prior to the facility closure. The total units design capacity was updated to reflect this change;

- One Containment Building unit was added (S06 and T94) for temporary storage and treatment of remote-handled high-activity mixed waste at the future RHWF; and

- A new process was added (T04) to all container storage units for treatment in containers and debris treatment. This was added to support STP milestones, meet Land Disposal Restrictions requirements, and to facilitate cost savings opportunities for the disposition of D&D mixed wastes and debris.

- The RCRA Unit Summary for the Vitrification and Integrated Radioactive Waste Treatment System (IRTS) process descriptions, along with other sections of the unit summary, were updated to reflect current status including the initiation of VEMP and the potential for treatment of liquid wastes not suitable for vitrification (high sodium liquid) in the IRTS.

- Pages 6a and 6b of the EPA Form 8700-23; Section XIV was revised as follows:

  - The hazardous waste code for lead (D008) was added to the HLW tanks and the Vitrification Facility. D008 may be present in D&D wastes and debris which may be evaluated as candidates for treatment;

  - All remaining P&U hazardous waste codes were added to all storage units to address potential return of the WVDP mixed wastes treatment residues from off-site facilities as a result of implementation of the Residuals Management Contingency Plan(s) (RMCP);

  - Units of measure were converted from metric to English units to be consistent; and

  - Hazardous waste codes and the facility storage/throughput were included for waste management at the RHWF.

The proposed changes include increases in the total design capacity for storage and treatment of hazardous and mixed wastes at the WVDP. The operational capacity for most storage and treatment units may be below their design capacity. The current inventory of hazardous and mixed wastes in storage at the WVDP is below the design and operational capacities of the existing interim status storage units. New inventories of hazardous and mixed wastes generated as a result of transition activities and D&D projects are not expected to add significantly to the existing inventories. As new hazardous and mixed wastes are generated, existing inventories will be depleted through treatment and disposition of the wastes to off-site treatment, storage, or disposal facilities.

We look forward to your agency's response. Your approval is respectfully requested by April 30, 2001.

Should you have any questions, please contact Moira N. Maloney of the U. S. Department of Energy at (716) 942-4255.

Sincerely,

Alice C. Williams

Alice C. Williams, Director
West Valley Demonstration Project

Enclosure: RCRA Part A Permit Application

cc: H. R. Moore, OH/WVDP, WV-DOE, w/o enc.
J. Krajewski, NYSDEC- Region 9, w/enc.
T. I. DiGiulio, NYSDEC - Albany, w/enc.
J. Gorman, EPA - Region II. w/enc.
H. Brodie, NYSERDA - Albany, w/enc.
C. L. Gerwitz, NYSERDA, WV-17, w/enc.
P. L. Piciulo, NYSERDA, WV-17, w/enc.
R R. Campbell, WVNS, WV-07, w/enc.
G. F. Centrich, WVNS, WV-B1A, w/enc.
J. R. Gerber, WVNS, AOC-24, w/enc.
D. K. Ploetz, WVNS, WV-DOE, w/o enc.

MNM:0355 - 76041 - 452.3

MNM/sdm

**WEST VALLEY DEMONSTRATION PROJECT**
**PART A PERMIT APPLICATION**

## TABLE OF CONTENTS

HAZARDOUS WASTE PERMIT APPLICATION, PART A,

EPA FORM 8700-23 (Rev 11-30-93)

FOR THE WEST VALLEY DEMONSTRATION PROJECT

Please print or type with ELITE type (12 characters per inch) in the unshaded areas only

Form Approved, OMB No. 2050-0034 Expires 9-30-96
GSA No. 0246-EPA-GT

Comments (If Any) Use Only

Date Received
Month | Day | Year

United States Environmental Protection Agency
Washington, DC 20460

# Hazardous Waste Permit Application Part A

(Read the instructions before starting)

I. Installation's EPA ID Number (Mark 'X' in the appropriate box)

[ ] A. First Part A Submission

[X] B. Part A Amendment # 1

C. Installation's EPA ID Number: NYD980779540

D. Secondary ID Number (If applicable):

E. Name of Facility: WEST VALLEY DEMONSTRATION PROJ

III. Facility Location (Physical address not P.O. Box or Route Number)

A. Street: 10282 ROCK SPRINGS ROAD

Street (Continued):

City or Town: ASHFORD | State: NY | Zip Code: 14171-9799

County Name: 009 CATTARAUGUS

B. [illegible] | C. Geographic Location: LATITUDE (Degrees, Minutes, Seconds): S 42 27 02.9 | LONGITUDE (Degrees, Minutes, Seconds): 078 39 01.5 | D. Facility Existed On (Date): Month: 02 Day: 22 Year: 1982

IV. Facility Mailing Address

Street or P.O. Box: 10282 ROCK SPRINGS ROAD

City or Town: WEST VALLEY | State: NY | Zip Code: 14171-9799

V. Facility Contact (Person to be contacted regarding waste activities at facility)

Name (Last): MALONEY | (First): MOIRA

Job Title: ENG/ENV SCIENT | Phone Number (Area Code and Number): 716-942-4255

VI. Facility Contact Address (See instructions)

A. Contact Address: [ ] Location [ ] Mailing [ ] Other

B. Street or P.O. Box:

City or Town: | State: | Zip Code:

Please print or type with ELITE type (12 characters per inch) in the unshaded areas only

Form Approved, OMB No. 2050-0034 Expires 9-30-96
GSA No. 0246-EPA-OT

**EPA I.D. Number** *(Enter from page 1)*: NYD980779540

**Secondary ID Number** *(Enter from page 1)*:

## VII. Operator Information *(See Instructions)*

**Name of Operator**: U S DEPARTMENT OF ENERGY

**Street or P.O. Box**: 10282 ROCK SPRINGS ROAD

**City or Town**: WEST VALLEY

**State**: NY

**ZIP Code**: 14171-9799

**Phone Number** *(Area Code and Number)*: 716-942-4312

**B. Operator Type**: F

**C. Change of Operator Indicator**: Yes [ ] No [X]

**Date Changed** Month Day Year:

## VIII. Facility Owner *(See Instructions)*

**A. Name of Facility's Legal Owner**: NYSERDA

**Street or P.O. Box**: CORP PLAZ W 286 WASHINGTON AVE

**City or Town**: ALBANY

**State**: NY

**ZIP Code**: 12203-6399

**Phone Number** *(Area Code and Number)*: 518-862-1090

**B. Owner Type**: S

**C. Change of Owner Indicator**: Yes [ ] No [X]

**Date Changed** Month Day Year:

## IX. SIC Codes *(4-digit, in order of significance)*

| Primary | | Secondary | |
|---|---|---|---|
| 9999 (Description) OTHER | | (Description) | |
| **Secondary** | | **Secondary** | |
| (Description) | | (Description) | |

## X. Other Environmental Permits *(See Instructions)*

| A. Permit Type (Enter code) | B. Permit Number | C. Description |
|---|---|---|
| | | SEE ATTACHMENT |

EPA I.D. Number (Enter from page 1)

| N | Y | D | 9 | 8 | 0 | 7 | 7 | 9 | 5 | 4 | 0 |
|---|---|---|---|---|---|---|---|---|---|---|---|

Secondary ID Number (Enter from page 1)

## XI. Nature of Business (Provide a brief description)

PURPOSE: Under the West Valley Demonstration Project Act (WVDPA), the U.S. Department of Energy is required to carry out a high-level radioactive waste (HLW) management project to demonstrate solidification techniques which can be used for preparing HLW for disposal. ACTIVITIES: (a) Solidify HLW in a form suitable for transport and disposal by vitrification or such other technology which DOE determines to be most effective, (b) develop containers for suitable transport of HLW, (c) transport solidified waste to an appropriate federal repository, (d) dispose of low-level radioactive waste (LLW) and transuranic waste (TRU) per applicable licensing requirements, and (e) decontaminate and decommission (D&D) all tanks, facilities, material, and hardware used in conjunction with the Project.

Please refer to the attached "RCRA Unit Summary" for details regarding the units to be permitted under RCRA.

## XII. Process Codes and Design Capacities

A. **PROCESS CODE** - Enter the code from the list of process codes below that best describes each process to be used at the facility. Thirteen lines are provided for entering codes. If more lines are needed, attach a separate sheet of paper with the additional information. For "other" processes (i.e., D99, S99, T04 and X99), describe the process (including its design capacity) in the space provided in Item XIII.

B. **PROCESS DESIGN CAPACITY** - For each code entered in column A, enter the capacity of the process.

1. **AMOUNT** - Enter the amount. In a case where design capacity is not applicable (such as in a closure/post-closure or enforcement action) enter the total amount of waste for that process.
2. **UNIT OF MEASURE** - For each amount entered in column B(1), enter the code from the list of unit measure codes below that describes the unit of measure used. Only the units of measure that are listed below should be used.

C. **PROCESS TOTAL NUMBER OF UNITS** - Enter the total number of units used with the corresponding process code.

| PROCESS CODE | PROCESS | APPROPRIATE UNITS OF MEASURE FOR PROCESS DESIGN CAPACITY |
|---|---|---|
| | Disposal: | |
| D79 | Underground Injection | Gallons; Liters; Gallons Per Day; or Liters Per Day |
| D80 | Landfill | Acre-feet or Hectare-meter |
| D81 | Land Treatment | Acres or Hectares |
| D82 | Ocean Disposal | Gallons Per Day r Liters Per Day |
| D83 | Surface Impoundment | Gallons or Liters |
| D99 | Other Disposal | Any Unit of Measure Listed Below |
| | Storage: | |
| S01 | Container (Barrel, Drum, Etc.) | Gallons or Liters |
| S02 | Tank | Gallons or Liters |
| S03 | Waste Pile | Cubic Yards or Cubic Meters |
| S04 | Surface Impoundment | Gallons or Liters |
| S05 | Drip Pad | Gallons or Liters |
| S06 | Containment Building-Storage | Cubic Yards or Cubic Meters |
| S99 | Other Storage | Any Unit of Measure Listed Below |
| | Treatment: | |
| T01 | Tank | Gallons Per Day or Liters Per Day |
| T02 | Surface Impoundment | Gallons Per Day or Liters Per Day |
| T03 | Incinerator | Short Tons Per Hour; Metric Tons Per Hour; Gallons Per Hour; Liters Per Hour; or Btu's Per Hour |
| T04 | Other Treatment | Gallons Per Day; Liters Per Day; Pounds Per Hour; Short Tons Per Hour; Kilograms Per Hour; Metric Tons Per Day; Metric Tons Per Hour; Short Tons Per Day; or Btu's Per Hour |
| T80 | Boiler | Gallons or Liters |
| T81 | Cement Kiln | Gallons Per Day; Liters Per Day; Pounds Per Hour; Short Tons Per Hour; Kilograms Per Hour; Metric Tons Per Day; Metric Tons Per Hour; Short Tons Per Day; or Btu's Per Hour |
| T82 | Lime Kiln | |
| T83 | Aggregate Kiln | |
| T84 | Phosphate Kiln | |
| T85 | Coke Oven | |
| T86 | Blast Furnace | |
| T87 | Smelting, Melting, Or Refining Furnace | Gallons Per Day; Liters Per Day; Pounds Per Hour; Short Tons Per Hour; Kilograms Per Hour; Metric Tons Per Day; Metric Tons Per Hour; Short Tons Per Day; or Btu's Per Hour |
| T88 | Titanium Dioxide Chloride Process Oxidation Reactor | |
| T89 | Methane Reforming Furnace | |
| T90 | Pulping Liquor Recovery Furnace | |
| T91 | Combustion Device Used In The Recovery Of Sulfur Values From Spent Sulfuric Acid | |
| T92 | Halogen Acid Furnaces | |
| T93 | Other Industrial Furnaces Listed In 40 CFR §260.10 | |
| T94 | Containment Building-Treatment | Cubic Yards or Cubic Meters |
| | Miscellaneous (Subpart X): | |
| X01 | Open Burning/Open Detonation | Any Unit of Measure Listed Below |
| X02 | Mechanical Processing | Short Tons Per Hour; Metric Tons Per Hour; Short Tons Per Day; Metric Tons Per Day; Pounds Per Hour; or Kilograms Per Hour |
| X03 | Thermal Unit | Gallons Per Day; Liters Per Day; Pounds Per Hour; Short Tons Per Hour; Kilograms Per Hour; Metric Tons Per Day; Metric Tons Per Hour; Short Tons Per Day; or Btu's Per Hour |
| X04 | Geologic Repository | Cubic Yards or Cubic Meters |
| X99 | Other Subpart X | Any Unit of Measure Listed Below |

| UNIT OF MEASURE | UNIT OF MEASURE CODE |
|---|---|
| Gallons | G |
| Gallons Per Hour | E |
| Gallons Per Day | U |
| Liters | L |
| Liters Per Hour | H |
| Liters Per Day | V |
| Short Tons Per Hour | D |
| Metric Tons Per Hour | W |
| Short Tons Per Day | N |
| Metric Tons Per Day | S |
| Pounds Per Hour | J |
| Kilograms Per Hour | R |
| Cubic Yards | Y |
| Cubic Meters | C |
| Acres | B |
| Acre-feet | A |
| Hectares | Q |
| Hectare-meter | F |
| Btu's Per Hour | I |

Please print or type with ELITE type (12 characters per inch) in the unshaded areas only

Form Approved, OMB No. 2050-0034 Expires 9-30-96
GSA No. 0246-EPA-OT

EPA I.D. Number (Enter from page 1): N Y D 9 8 0 7 7 9 5 4 0

Secondary ID Number (Enter from page 1):

## XII. Process Codes and Design Capabilities (Continued)

EXAMPLE FOR COMPLETING ITEM XII (Shown in line number X-1 below): A facility has a storage tank, which can hold 533,788 gallons.

| Line Number | A. Process Code (From list above) | B. PROCESS DESIGN CAPACITY 1. Amount (Specify) | B. 2. Unit Of Measure (Enter code) | C. Process Total Number Of Units | For Official Use Only |
|---|---|---|---|---|---|
| X 1 | S 0 2 | 5 3 3 7 8 8 | G | 0 0 1 | |
| 1 | S 0 1 | 3,975,785. 000 | G | 0 1 4 | |
| 2 | S 0 2 | 1,530,000. 000 | G | 0 0 4 | |
| 3 | S 0 6 | 1,910. 000 | Y | 0 0 1 | |
| 4 | T 9 4 | (Included with SO6) | Y | 0 0 1 | |
| 5 | T 0 1 | 1,700. 000 | U | 0 0 5 | |
| 6 | | | | | |
| 7 | | | | | |
| 8 | | | | | |
| 9 | | | | | |
| 10 | | | | | |
| 11 | | | | | |
| 12 | | | | | |
| 13 | | | | | |

NOTE: If you need to list more than 13 process codes, attach an additional sheet(s) with the information in the same format as above. Number the lines sequentially, taking into account any lines that will be used for "other" processes (i.e., D99, S99, T04 and X99) in item XIII.

## XIII. Other Processes (Follow instructions from item XII for D99, S99, T04 and X99 process codes)

| Line Number (Enter #s in seq w/XII) | A. Process Code (From list above) | B. PROCESS DESIGN CAPACITY 1. Amount (Specify) | B. 2. Unit Of Measure (Enter code) | C. Process Total Number Of Units | D. Description Of Process |
|---|---|---|---|---|---|
| X 1 | T 0 4 | | | | In-situ Vitrification |
| 1 | T 0 4 | 60. 00 | U | 1 | High-Level Waste Vitrification (See RCRA unit summary section 3.0) |
| 2 | T 0 4 | 1,000. 00 | U | 14 | Treatment in Containers and Treatment of Debris and Stabilization or Pretreatment of liquid wastes. (See RCRA unit summary sections 2.0 and 4.0) |
| 3 | | | | | |
| 4 | | | | | |

| EPA I.D. Number (Enter from page 1) | | | | | | | | | | | Secondary ID Number (Enter from page 1) | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| N | Y | D | 9 | 8 | 0 | 7 | 7 | 9 | 5 | 4 | 0 | | | | | | | | | | | | |

## XIV. Description of Hazardous Wastes

**A. EPA HAZARDOUS WASTE NUMBER** - *Enter the four-digit number from 40 CFR, Part 261 Subpart D of each listed hazardous waste you will handle. For hazardous wastes which are not listed in 40 CFR, Part 261 Subpart D, enter the four-digit number(s) from 40 CFR, Part 261 Subpart C that describes the characteristics and/or the toxic contaminants of those hazardous wastes.*

**B. ESTIMATED ANNUAL QUANTITY** - *For each listed waste entered in column A estimate the quantity of that waste that will be handled on an annual basis. For each characteristic or toxic contaminant entered in column A estimate the total annual quantity of all the non-listed waste(s) that will be handled which possess that characteristic or contaminant.*

**C. UNIT OF MEASURE** - *For each quantity entered in column B enter the unit of measure code. Units of measure which must be used and the appropriate codes are:*

| ENGLISH UNIT OF MEASURE | CODE | METRIC UNIT OF MEASURE | CODE |
|---|---|---|---|
| POUNDS | P | KILOGRAMS | K |
| TONS | T | METRIC TONS | M |

*If facility records use any other unit of measure for quantity, the units of measure must be converted into one of the required units of measure taking into account the appropriate density or specific gravity of the waste.*

**D. PROCESSES**

**1. PROCESS CODES:**

*For listed hazardous waste: For each listed hazardous waste entered in column A select the code(s) from the list of process codes contained in item XII A. on page 3 to indicate how the waste will be stored, treated, and/or disposed of at the facility.*

*For non-listed hazardous waste: For each characteristic or toxic contaminant entered in column A, select the code(s) from the list of process codes contained in item XII A. on page 3 to indicate all the processes that will be used to store, treat, and/or dispose of all the non-listed hazardous wastes that possess that characteristic or toxic contaminant.*

*NOTE: THREE SPACES ARE PROVIDED FOR ENTERING PROCESS CODES. IF MORE ARE NEEDED:*

1. *Enter the first two as described above.*
2. *Enter "000" in the extreme right box of item XIV-D(1).*
3. *Enter in the space provided on page 7, item XIV-E, the line number and the additional codes.*

**2. PROCESS DESCRIPTION:** *If a code is not listed for a process that will be used, describe the process in the space provided on the form (D(2)).*

*NOTE: HAZARDOUS WASTES DESCRIBED BY MORE THAN ONE EPA HAZARDOUS WASTE NUMBER. Hazardous wastes that can be described by more than one EPA Hazardous Waste Number shall be described on the form as follows:*

1. *Select one of the EPA Hazardous Waste Numbers and enter it in column A. On the same line complete columns B, C and D by estimating the total annual quantity of the waste and describing all the processes to be used to treat, store, and/or dispose of the waste.*
2. *In column A of the next line enter the other EPA Hazardous Waste Number that can be used to describe the waste. In column D(2) on that line enter "included with above" and make no other entries on that line.*
3. *Repeat step 2 for each EPA Hazardous Waste Number that can be used to describe the hazardous waste.*

*EXAMPLE FOR COMPLETING ITEM XIV (shown in line numbers X-1, X-2, X-3, and X-4 below): A facility will treat and dispose of an estimated 900 pounds per year of chromic sludge from electroplating and finishing operations. In addition, the facility will treat and dispose of three non-listed wastes. Two wastes are corrosive only and there will be an estimated 200 pounds per year of each waste. The other waste is corrosive and ignitable and there will be an estimated 100 pounds per year of that waste. Treatment will be in an incinerator and disposal will be in a landfill.*

| Line Number | A. EPA HAZARD WASTE NO. (Enter code) | B. ESTIMATED ANNUAL QUANTITY OF WASTE | C. UNIT OF MEASURE (Enter code) | D. PROCESS (1) PROCESS CODES (Enter code) | (2) PROCESS DESCRIPTION (If a code is not entered in D(1)) |
|---|---|---|---|---|---|
| X 1 | K 0 5 4 | 900 | P | T 0 3 D 8 0 | |
| X 2 | D 0 0 2 | 400 | P | T 0 3 D 8 0 | |
| X 3 | D 0 0 1 | 100 | P | T 0 3 D 8 0 | |
| X 4 | D 0 0 2 | | | | Included With Above |

Please print or type with ELITE type (12 characters per inch) in the unshaded areas only

Form Approved, OMB No. 2050-0034 Expires 9-30-98
GSA No. 0246-EPA-OT

EPA I.D. Number (Enter from page 1): N Y D 9 8 0 7 7 9 5 4 0

Secondary ID Number (Enter from page 1):

## XIV. Description of Hazardous Wastes (Continued)

| Line Number | | A. EPA HAZARDOUS WASTE NO. (Enter code) | B. ESTIMATED ANNUAL QUANTITY OF WASTE | C. UNIT OF MEASURE (Enter code) | D. PROCESSES (1) PROCESS CODES (Enter code) | D. PROCESSES (2) PROCESS DESCRIPTION (If a code is not entered in D(1)) |
|---|---|---|---|---|---|---|
| | 1 | D 0 0 2 | 3,042 | T | T 0 1 S 0 2 T 0 4 | (See RCRA unit summary sections 1.0, 2.0, & 3.0) |
| | 2 | D 0 0 5 | | | | Included with above |
| | 3 | D 0 0 6 | | | | Included with above |
| | 4 | D 0 0 7 | | | | Included with above |
| | 5 | D 0 0 8 | | | | Included with above |
| | 6 | D 0 0 9 | | | | Included with above |
| | 7 | D 0 1 0 | | | | Included with above |
| | 8 | D 0 1 1 | | | | Included with above |
| | 9 | B 0 0 1 | 28,219 | T | S 0 1 T 0 4 | * See footnotes, see RCRA unit summary section 4.0 |
| 1 | 0 | Through | | | | Included with above |
| 1 | 1 | B 0 0 7 | (Inclusive) | | | Included with above |
| 1 | 2 | D 0 0 1 | | | | Included with above |
| 1 | 3 | Through | | | | Included with above |
| 1 | 4 | D 0 4 3 | (Inclusive) | | | Included with above |
| 1 | 5 | F 0 0 1 | | | | Included with above |
| 1 | 6 | Through | | | | Included with above |
| 1 | 7 | F 0 3 9 | (Inclusive) | | | Included with above |
| 1 | 8 | P 0 0 1 | | | | Included with above |
| 1 | 9 | Through | | | | Included with above |
| 2 | 0 | P 2 0 5 | (Inclusive) | | | Included with above |
| 2 | 1 | U 0 0 1 | | | | Included with above |
| 2 | 2 | Through | | | | Included with above |
| 2 | 3 | U 4 1 1 | (Inclusive) | | | Included with above |
| 2 | 4 | | | | | |
| 2 | 5 | | | | | |
| 2 | 6 | | | | | |
| 2 | 7 | | | | | |
| 2 | 8 | | | | | |
| 2 | 9 | | | | | |
| 3 | 0 | | | | | |
| 3 | 1 | | | | | |
| 3 | 2 | | | | | |
| 3 | 3 | | | | | |

Please print or type with ELITE type (12 characters per inch) in the unshaded areas only

Form Approved, OMB No. 2050-0034 Expires 9-30-96
GSA No. 0249-EPA-OT

EPA I.D. Number (Enter from page 1): N Y D 9 8 0 7 7 9 5 4 0

Secondary ID Number (Enter from page 1):

## XIV. Description of Hazardous Wastes (Continued)

| Line Number | A. EPA HAZARDOUS WASTE NO. (Enter code) | B. ESTIMATED ANNUAL QUANTITY OF WASTE | C. UNIT OF MEASURE (Enter code) | D. PROCESSES (1) PROCESS CODES (Enter code) | D. PROCESSES (2) PROCESS DESCRIPTION (If a code is not entered in D(1)) |
|---|---|---|---|---|---|
| 1 | B001 | 216 | T | S06 T94 | * See footnotes, see RCRA unit summary section 5.0 |
| 2 | Through | | | | Included with above |
| 3 | B007 (Inclusive) | | | | Included with above |
| 4 | D001 | | | | Included with above |
| 5 | Through | | | | Included with above |
| 6 | D043 (Inclusive) | | | | Included with above |
| 7 | F001 | | | | Included with above |
| 8 | Through | | | | Included with above |
| 9 | F039 (Inclusive) | | | | Included with above |
| 10 | P001 | | | | Included with above |
| 11 | Through | | | | Included with above |
| 12 | P205 (Inclusive) | | | | Included with above |
| 13 | U001 | | | | Included with above |
| 14 | Through | | | | Included with above |
| 15 | U411 (Inclusive) | | | | Included with above |
| 16 | | | | | |
| 17 | | | | | |
| 18 | | | | | |
| 19 | | | | | |
| 20 | | | | | |
| 21 | | | | | |
| 22 | | | | | |
| 23 | | | | | |
| 24 | | | | | |
| 25 | | | | | |
| 26 | | | | | |
| 27 | | | | | |
| 28 | | | | | |
| 29 | | | | | |
| 30 | | | | | |
| 31 | | | | | |
| 32 | | | | | |
| 33 | | | | | |

Please print or type with ELITE type (12 characters per inch) in the unshaded areas only

Form Approved, OMB No. 2050-0034 Expires 9-30-96
GSA No. 0248-EPA-OT

| EPA I.D. Number (Enter from page 1) | Secondary ID Number (Enter from page 1) |
|---|---|
| NYD980779540 | |

## XV. Map

*Attach to this application a topographic map, or other equivalent map, of the area extending to at least one mile beyond property boundaries. The map must show the outline of the facility, the location of each of its existing and proposed intake and discharge structures, each of its hazardous waste treatment, storage, or disposal facilities, and each well where it injects fluids underground. Include all springs, rivers and other surface water bodies in this map area. See instructions for precise requirements.*

## XVI. Facility Drawing

*All existing facilities must include a scale drawing of the facility (see instructions for more detail).*

## XVII. Photographs

*All existing facilities must include photographs (aerial or ground-level) that clearly delineate all existing structures; existing storage, treatment and disposal areas; and sites of future storage, treatment or disposal areas (see instructions for more detail).*

## XVIII. Certification(s)

*I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.*

| | |
|---|---|
| Owner Signature: William M. Flynn | Date Signed: 3/1/01 |
| Name and Official Title (Type or print): W.M. Flynn, President, NYSERDA, ** See footnote on following page | |
| Owner Signature | Date Signed |
| Name and Official Title (Type or print) | |
| Operator Signature: Alice C. Williams | Date Signed: 3/5/01 |
| Name and Official Title (Type or print): Alice Williams, Director, DOE-OH/WVDP, ** See footnote on following page | |
| Co-Operator Signature: R.R. Campbell | Date Signed: 3/5/01 |
| Name and Official Title (Type or print): R.R. Campbell, President WVNS Co. LLC, ** See footnote on following page | |

## XIX. Comments

*Note: Mail completed form to the appropriate EPA Regional or State Office. (Refer to instructions for more information)*

## FOOTNOTES

* Footnote

The estimated annual quantity reflects the total space available and is to be used for any combination of the identified hazardous waste codes.

** Footnote

The U.S. Department of Energy (DOE) and its management and operating contractor, West Valley Nuclear Services Company LLC (WVNS), have jointly signed this application as co-operators of the authorized interim status facility. The DOE has determined that dual signatures best reflect the actual apportionment of responsibility for implementing RCRA under which the DOE operates facilities under its jurisdiction or control. The DOE's responsibilities include policy, programmatic, funding, and scheduling decisions, as well as general oversight. The contractor's responsibilities are for day-to-day activities in accordance and consistent with the DOE Contract and DOE Directives and Orders, implementing RCRA compliance, such as waste analyses and handling, monitoring, recordkeeping, and contingency planning.

The New York State Energy Research and Development Authority (NYSERDA) has signed this application as holder of record title, on behalf of the State of New York, to the Western New York Nuclear Service Center (Center). The DOE, and consequently its management and operating contractor, have certain rights, authorities, duties, and responsibilities for certain wastes, facilities, and premises located at the Center, as defined in the West Valley Demonstration Project Act (WVDP Act), Publ. L. 96-368, 42 USC 2021a, as implemented by the Cooperative Agreement, effective October 1, 1980, as amended September 18, 1981, is appended to this application. A copy of the WVDP Act is included as Attachment G of the Cooperative Agreement. Submission of this permit application is not intended to affect the respective interests of the DOE and NYSERDA under the WVDP Act as implemented by the Cooperative Agreement.

For purposes of the certification required by 40 CFR Section 270.11(d) and 6 NYCRR 373-1.3(d)(4)(iv), the DOE's, WVNS's, and NYSERDA's representatives certify, to the best of their knowledge and belief, the truth, accuracy, and completeness of the application for their respective areas of responsibility.

ATTACHMENT A

SECTION X

OTHER ENVIRONMENTAL PERMITS

AND

COOPERATIVE AGREEMENT BETWEEN
UNITED STATES DEPARTMENT OF ENERGY AND
NEW YORK STATE ENERGY RESEARCH AND DEVELOPMENT AUTHORITY

Section X - Other Environmental Permits

| **A. Permit Type** ***(Enter Code)*** | **B. Permit Number** | **C. Description** |
|---|---|---|
| Waste Water Treatment and Discharge | | |
| N | NY0000973 | State Pollutant Discharge Elimination System (SPDES) Permit |
| Air Emissions | | |
| E | 9–0422-00005/00091 | Title 19 State Facility Permit for the WVDP |
| E | Not Numbered | EPA NESHAP - Vitrification Facility HVAC System |
| E | WVDP-187-01 | EPA NESHAP - 01-14 Building Ventilation System |
| E | WVDP-287-01 | EPA NESHAP - Contact Size Reduction Facility (Cancellation request pending) |
| E | WVDP-387-01 | EPA NESHAP - Supernatant Treatment System |
| E | WVDP-587-01 | EPA NESHAP - Outdoor Ventilation Enclosures (Cancellation request pending) |
| E | WVDP-687-01 | EPA NESHAP - Process Building Ventilation System. Revised to include Melter Off-Gas |
| Bulk Storage Tanks | | |
| E | 9-000158 | Chemical Bulk Storage Tank Registration |
| E | 9-008885 | Petroleum Bulk Storage Tank Registration |
| Other Permits and Licenses | | |
| E | 99-04-TR096 | Buffalo Pollutant Discharge Elimination System |
| E | DWP 00-001 | New York State Fish and Wildlife License - Bird Depredation License (renewed annually) |
| E | LCP00-483 | New York State Fish and Wildlife License to Collect and Possess (fish and deer, renewed annually) |
| F | 94-973-29(4) | U.S. Army Corps of Engineers Clean Water Act Section 404 - Dredge and Fill Permit |
| E | 9-0422-00005/00093 | NYSDEC Article 24 Freshwater Wetlands Permit and CWA Section 401. Water Quality Certification |

(Conformed Copy)

# COOPERATIVE AGREEMENT

**between**

UNITED STATES DEPARTMENT OF ENERGY

**and**

NEW YORK STATE
ENERGY RESEARCH AND DEVELOPMENT AUTHORITY

**on the**

---

WESTERN NEW YORK NUCLEAR SERVICE CENTER
at WEST VALLEY, NEW YORK

---

*Effective October 1, 1980*
*as amended*
*September 18, 1981*

## EXPLANATORY STATEMENT

This is a conformed copy of the Cooperative Agreement, effective October 1, 1980, as amended effective September 18, 1981, between the United States Department of Energy and the New York State Energy Research and Development Authority.

TABLE OF CONTENTS

COOPERATIVE AGREEMENT

THIS AGREEMENT, effective as of October 1, 1980,* between THE UNITED STATES OF AMERICA, acting by and through the UNITED STATES DEPARTMENT OF ENERGY (the "Department"), Washington, D.C., and the STATE OF NEW YORK (the "State"), acting by and through the NEW YORK STATE ENERGY RESEARCH AND DEVELOPMENT AUTHORITY, a public benefit corporation organized and existing under the Laws of the State of New York (the "Authority"), Albany, New York.

W I T N E S S E T H:

WHEREAS the West Valley Demonstration Project Act, Pub. L. 96-368 (the "Act"),** provides that the United States Secretary of Energy (the "Secretary") shall carry out a high level radioactive waste management project at the Western New York Nuclear Service Center (the "Center"), in West Valley, New York; and

WHEREAS the Act provides that the Secretary and the State shall enter into a Cooperative Agreement, pursuant to the Federal Grant and Cooperative Agreement Act of 1977, Pub. L. 95-244, for the purpose of implementing such project; and

WHEREAS pursuant to Section 1856 of the Public Authorities Law of the State of New York, the Authority has assumed jurisdiction over the Center and holds the Center in the name of the State, subject to (a) a Lease and a Waste Storage Agreement (the "West Valley Agreements"), each dated as of May 15, 1963, between the New York State Atomic Research and Development Authority (the Authority's predecessor) and Nuclear Fuel Servic Inc. ("NFS") and (b) License CSF-1, originally issued to the New York State

* As amended effective September 18, 1981.

Atomic Research and Development Authority and NFS by the United States Atomic Energy Commission; and

WHEREAS Section 1854(6) of the Public Authorities Law of the State of New York authorizes the Authority to take such actions as it deems necessary or appropriate with respect to the Center in furtherance of the public interest in safe, reliable and economical energy supplies; and

WHEREAS the Congress and the New York State Legislature have appropriated funds to the Department and the Authority, respectively, portions of which have been expended and obligated in furtherance of such project;

NOW THEREFORE, in consideration of the premises and of the mutual covenants and agreements set forth herein, the Department and the Authority hereby agree as follows:

## ARTICLE I

## DEFINITIONS

Section 1.01. Definitions. As used herein, the following terms have the respective meanings set forth below:

Additional Facilities: as defined in Section 4.04.

Annual Authority Facility Credit: as defined in Section 5.03.

Annual Budget: as defined in Section 8.01.

Annual Project Costs: as defined in Section 5.03.

Annual Project Plan: as defined in Section 8.01.

Authority: as defined in the Preamble to this Agreement.

Authority Representatives: as defined in Section 8.07.

Authority Services: as defined in Section 5.03.

Board: as defined in Section 8.07.

Burial Facility: that portion of the Project Premises identified on Map 2 (annexed to Exhibit B) as the Commission-Licensed Burial Area.

Center: as defined in the Preamble to this Agreement.

Commission: the United States Nuclear Regulatory Commission and any Federal agency succeeding (by statute, regulation, agreement or otherwise) to the functions of such Commission.

Department: as defined in the Preamble to this Agreement.

Fuel Receiving and Storage Area: the area of the Process Plant at the Center used for the receipt and temporary storage of irradiated nuclear fuel elements, together with all fixtures, machinery, equipment, and apparatus affixed thereto or installed in connection therewith.

Legal Requirements: all laws, statutes, codes, acts, ordinances orders, judgments, decrees, injunctions, rules, regulations, permits, licenses, authorizations, directions and requirements of all Federal, state, county, municipal and other governmental departments, commissions, boards, courts, authorities, agencies, officials and officers, whether foreseen or unforeseen, ordinary or extraordinary, now or hereafter enacted or in force, which shall be applicable to the Project or any portion thereof.

Process Plant: the existing facility at the Center used for the receipt, storage and reprocessing of irradiated nuclear fuel elements, including all personal property, equipment, supplies, and materials (including, without limitation, all radioactive materials) located therein.

Project: all activities undertaken in carrying out the solidification of the liquid high level radioactive wastes at the Center, including, without limitation, (a) solidification in a form suitable for transportation and disposal of the liquid high level radioactive wastes at the Center by vitrification or such other technology as the Department determines to be most effective for

solidification; (b) preparation of the Project Premises and Project Facilities to accommodate the foregoing, including such decontamination of facilities and equipment as may be necessary or appropriate; (c) development of containers suitable for the permanent disposal of the high level radioactive wastes solidified at the Center; (d) transportation, as soon as feasible after solidification and in accordance with applicable provisions of law, of the wastes solidified at the Center to an appropriate Federal repository for permanent disposal; (e) decontamination and decommissioning of the tanks, other facilities at the Center in which the solidified wastes were stored and all Project Facilities and other facilities, material, and hardware used in carrying out the solidification of the high level radioactive wastes at the Center; (f) disposal, in accordance with applicable licensing requirements, of low level and transuranic wastes produced by or as a result of the foregoing; and (g) all other activities necessary to carry out the foregoing.

Project Completion Date: the date upon which (a) the Project shall have been completed; (b) all other obligations of the Department hereunder shall have been performed in full; and (c) the Commission shall have issued or granted all licenses and approvals necessary for the Authority to resume possession and control of the Project Premises and Project Facilities; provided, however, that if the Department transports the high level radioactive wastes solidified under the Project from the Center for storage or disposal in a Federal repository other than a repository for the permanent disposal of such wastes and accepts title to, and all responsibility for, such wastes without payment by the Authority other than expressly provided in Section 3.05, then the failure of the Department to transport such wastes to an appropriate Federal repository for permanent disposal shall not prevent completion of the Project for the purposes of this definition.

Project Costs: each of the following: (a) those costs which have been or are incurred by the Department in carrying out the Project, consistent with the appropriation of funds for the Project; (b) the value to the Project of the Center as provided in Article V; and (c) the value of services performed by or on behalf of the Authority, its contractors, employees or agents as provided in Article V.

Project Facilities: the facilities described in Section 4.01 which the Authority is making available to the Department, in accordance with the Act and Article IV of this Agreement, to be used in the solidification of the high level radioactive wastes at the Center.

Project Premises: the land specified in Exhibit B and Map 2 appended thereto.

Project Term: the period commencing on the effective date of this Cooperative Agreement and ending at midnight on the Project Completion Date.

Retained Premises: the land specified in Exhibit A and Map 1 appended thereto.

RFP: as defined in Section 8.07.

Total Project Costs: the sum of all Project Costs.

Unavoidable Delay: delays due to strikes, acts of God, governmental restrictions, fire, unavoidable casualty or other causes beyond the Department's reasonable control.

West Valley Agreements: as defined in the Preamble to this Agreement.

## ARTICLE II

## PURPOSE, OBJECTIVES AND BENEFITS

Section 2.01. Purpose. The purpose of this Agreement is to establish a cooperative framework for the implementation of the Project by the Department and the Authority as contemplated by Section 2(b)(4) of the Act. The purpose of the Project is to develop and demonstrate technology for the removal, processing, solidification, and transportation of alkaline or acidic high level radioactive wastes in a manner which protects the public health and safety both during and after the completion of the Project. The Project is consistent with Federal policy that high level radioactive wastes be solidified and transferred to a Federal repository for permanent disposal.

Section 2.02. Objectives. The objectives of the Project, to be carried out in a manner which protects public health and safety, include:

(a) decontamination of the Project Facilities at the Center to accommodate the solidification process;

(b) development and implementation of technology for the removal of the high level radioactive wastes, including sludges, from the tanks at the Center;

(c) solidification of the high level radioactive wastes at the Center;

(d) development of containers for the disposal of the wastes solidified at the Center;

(e) transportation of the solidified wastes to an appropriate Federal repository for permanent disposal;

(f) decontamination and decommissioning of the tanks and other facilities in which the solidified wastes were stored, together with the Project Facilities and other facilities, material and

hardware used in carrying out the Project, in accordance with such requirements as the Commission may prescribe; and

(g) disposal of radioactive wastes (other than the high level radioactive wastes solidified at the Center) produced by or as a result of the foregoing activities.

Section 2.03. Benefits.

(a) The benefits of the Project to the Department include:

(i) demonstrating technology for the solidification of alkaline wastes on a significant scale;

(ii) demonstrating technology for the solidification of acidic thorium-based wastes on a significant scale;

(iii) providing greater experience with the decontamination and decommissioning of facilities used in the nuclear fuel cycle, including the demonstration of technology for the decontamination, decommissioning and disposal of high level radioactive waste storage tanks;

(iv) providing operational experience in the removal of sludge from high level waste tanks;

(v) developing methodologies for assessing the environmental impact of and developing safety criteria for other high level waste solidification projects; and

(vi) protecting public health and safety.

(b) The benefits of the Project to the Authority include, in addition to the benefits to the Department:

(i) solidification of the high level radioactive wastes at the Center and their transportation to an appropriate Feder repository for permanent disposal;

(ii) decontamination and decommissioning of the facilities at the Center used in carrying out the Project; and

(iii) disposal of radioactive wastes (other than the high level wastes solidified at the Center) produced by or in connection with the Project.

## ARTICLE III

## PROJECT MANAGEMENT AND RESPONSIBILITIES

Section 3.01. Department Responsibility for the Project. Except as provided in Section 3.03 and Article VIII, the Department shall have the sole responsibility for carrying out the Project, including without limitation the planning, design, management, implementation, and completion thereof in a manner which protects public health and safety.

Section 3.02. Specific Department Responsibilities. Without limiting the generality of its obligations under Section 3.01, the Department shall:

(a) in accordance with the Act, during the fiscal year ending September 30, 1981:

(i) hold public hearings in the vicinity of the Center to inform residents of the area in which the Project is located of the activities to be undertaken under the Project and to receive their comments on the Project;

(ii) consider the techniques available for the solidification and handling of the high level radioactive wastes at the Center;

(iii) undertake detailed engineering and cost estimates for the Project;

(iv) prepare a plan for the safe removal of the high level radioactive wastes at the Center for the purpose of solidification;

(v) conduct a safety analysis of the Project;

(vi) prepare such environmental analyses for the Project as may be required under the National Environmental Policy Act of 1969; and

(vii) enter into an agreement with the Commission to establish arrangements for review and consultation by the Commission with respect to the Project, as required by the Act.

(b) on or before October 1, 1981:

(i) assume exclusive possession of the Project Premises and Project Facilities for use in carrying out the Project; and

(ii) assume responsibility for protection of public health and safety with respect to the Project Premises and Project Facilities for the duration of the Project.

(c) commencing October 1, 1981, and in accordance with the Annual Project Plans provided for in Section 8.01 of this Agreement:

(i) prepare the Project Premises and Project Facilities to accommodate the Project, including such decontamination of facilities and equipment as may be necessary or appropriate to permit their use in the Project;

(ii) solidify, in a form suitable for transportation and disposal, the high level radioactive wastes at the Center by vitrification or such other technology as the Department

determines to be most effective for solidification, using the Project Facilities at the Center;

(iii) develop containers suitable for the permanent disposal of the high level radioactive wastes solidified at the Center;

(iv) maintain and thereafter transport, as soon as feasible after solidification and in accordance with applicable provisions of law, the waste solidified at the Center to an appropriate Federal repository for permanent disposal;

(v) dispose of low level radioactive waste and transuranic waste produced by or as a result of the Project in accordance with applicable licensing requirements;

(vi) decontaminate and decommission the tanks and other facilities at the Center in which the solidified wastes were stored and all Project Facilities and other facilities, material and hardware used in carrying out the Project, all in accordance with such requirements as the Commission may prescribe; and

(vii) take all such other and further actions as may be necessary to carry out the Department's obligations hereunder.

Section 3.03. Authority Services. In connection with the Project, the Authority shall:

(a) cooperate with the Department in the preparation of an environmental impact statement with respect to the Project and coordinate the reviews and comments thereon by all agencies of the State;

(b) continue to cause the premises and facilities at the Center to be operated and maintained for use in the Project until October 1, 1981, or such earlier date on which the Department

assumes exclusive use and possession of the Project Premises and Project Facilities pursuant to Section 4.01;

(c) authorize the Department to use the Project Premises and Project Facilities in accordance with the terms of Article IV of this Agreement;

(d) provide services to the Department in connection with the Project in accordance with the provisions of Article V of this Agreement;

(e) subject to the approval of NFS, or by designating the Department to act as the Authority's agent under the West Valley Agreements, provide such access to the Center as the Department may reasonably require until the Department is put in exclusive possession of the Project Premises and Project Facilities; and

(f) otherwise participate and cooperate in carrying out the Project to the extent specified in Article VIII of this Agreement.

Section 3.04. Standard of Performance; Etc. The Department and the Authority shall carry out their respective obligations under this Article III in a prudent, professional, and workmanlike manner which does not jeopardize public health or safety and shall, subject to Unavoidable Delay, use their best efforts to complete the Project as expeditiously as possible. In performing such obligations hereunder, the Department and the Authority may utilize the services of such professionally qualified contractors, subcontractors, agents, and employees as they shall deem necessary or desirable, provided that no such utilization shall relieve either of them of any of their respective obligations under this Agreement.

Section 3.05. Maintenance and Management of the Solidified Wastes.

(a) Nothing in this Agreement shall be construed as providing for

the transfer of title from the Authority to the Department of, or responsibility for, the high level radioactive wastes solidified under the Project, except to the extent provided in Subsection 3.05(b).

(b) Upon delivery of the high level radioactive wastes solidified under the Project to an appropriate Federal repository for permanent disposal and payment to the Department of the funds held by the Authority for the maintenance of such wastes under the West Valley Agreements, with interest accrued thereon, the Department shall continue to be responsible for the control and management of such wastes and the Department and the Authority shall exchange documents necessary to evidence the foregoing. The Department shall control and manage such wastes using the funds paid to the Department under this Section and to the extent consistent with Section 11.02 of this Agreement. Nothing in the Act or this Agreement obligates the Department or the Federal government to pay the disposal costs, if any, for the solidified wastes.

## ARTICLE IV

## USE OF THE CENTER

Section 4.01. Possession of Project Premises and Project Facilities. In accordance with the Act, the Authority hereby grants the Department, and the Department hereby assumes for use in carrying out the Project, exclusive use and possession of the Project Premises, together with the buildings, facilities and improvements of whatever kind and description erected thereon

and all personal property, equipment, supplies, and material, including all radioactive material and waste located or stored therein, including, but not limited to, the facilities described in Exhibit C (collectively, the "Project Facilities") effective at 12:00 Noon on October 1, 1981, or such earlier date and time as may be mutually agreed upon by the Department and the Authority. Subject to the provisions of Article VI, the Authority shall take all steps necessary to put the Department into possession of the Project Premises and Project Facilities in accordance with the terms of this Agreement. The Department shall remain in exclusive use and possession of the Project Premises and Project Facilities and shall comply with its obligations hereunder throughout the remainder of the Project Term.

Section 4.02. Use of the Project Premises, Project Facilities, and Retained Premises. The Department shall use the Process Plant in carrying out the Project. Project Premises and Project Facilities shall be used solely for the purpose of carrying out the Project and for no other purpose whatsoever, except as expressly provided in this Agreement. During the Project Term, the Authority shall not use, or authorize the use of, the portion of the Center not subject to the exclusive use and possession of the Department (the "Retained Premises") in a manner which interferes with carrying out the Project.

Section 4.03. Condition on Surrender. On the Project Completion Date, the Department shall surrender to the Authority

(a) the Process Plant and

(b) such other Project Premises, Project Facilities and any other non-federally-owned facilities, material, and hardware which it uses in carrying out the Project

decontaminated and decommissioned in accordance with the Act and such requirements as the Commission may prescribe; provided, however, that the

Authority may (but shall be under no obligation to) agree that certain facilities used in carrying out the Project may be surrendered to it without having been decontaminated and decommissioned. In no event shall the Department be required under this Agreement to decontaminate and decommission materials buried in the Burial Facility prior to the assumption by the Department of possession of, and responsibility for, the Project Premises and Project Facilities."

Section 4.04. Additional Rights Granted to the Department. Commencing October 1, 1981, the Authority hereby grants the Department such rights as the Authority may have of access to and the use of all water, rail, electric and gas utilities and monitoring sites, including, but not limited to, the facilities described in Exhibit D (collectively, the "Additional Facilities") located on the Retained Premises, and as may be reasonably necessary to carry out the Project. The Department shall assume all costs incurred in connection with the Department's operation, use and maintenance of the Additional Facilities.

Section 4.05. Rights Retained by the Authority. Anything to the contrary contained herein notwithstanding, during the Project Term the Authority shall without charge:

(a) be entitled to use of * to 800 square feet of furnished office space within the existing Administration Building at the Center, including such telephone service, parking facilities and document duplicating services as may be reasonably necessary for Project purposes;

*So in the original -- should read "up to 800 square feet".

(b) subject to reasonable notice and coordination with Project activities, have the right of ingress and egress across the Project Premises for the purpose of access to the Retained Premises and such office space;

(c) subject to reasonable notice and coordination with Project activities, have direct access to and the use of all water, rail, electric, gas and other utilities and monitoring sites and facilities located within the Project Premises and Project Facilities to the extent necessary for the conduct of operations on the Retained Premises; and

(d) be entitled to continue to allow the storage of those irradiated nuclear fuel elements presently stored in the Fuel Receiving and Storage Area at the Center pursuant to the provisions of Section 4.11.

Section 4.06. Present Condition of Center. The Act directs the Department to carry out the Project at the Center, and therefore the Department's responsibilities hereunder shall not be affected by any defect in the condition or fitness of the Project Premises or Project Facilities nor shall the Department have any claim against the Authority arising from any such defect.

Section 4.07. Changes, Alterations, and Additions. Subject to the provisions of Article VIII, the Department may make, from time-to-time, such changes, alterations and additions to the Project Facilities and Additional Facilities as may be reasonably necessary to carry out the Project.

Section 4.08. Operation, Maintenance, and Repair. The Department shall operate and maintain the Project Premises, Project Facilities, and such Additional Facilities which it uses in carrying out the Project, and may be necessary or appropriate to carry out the Project in a manner which

protects public health and safety and complies with the provisions of this Agreement. As used in this Section, the term "maintain" shall include, but not be limited to, the obligation to make all necessary and appropriate repairs, changes, alterations, and additions thereto or replacements thereof, interior and exterior, structural and non-structural, ordinary and extraordinary, foreseen and unforeseen.

Section 4.09. Damage or Destruction. Notwithstanding the provisions of Section 4.08, nothing in this Agreement shall require the Department to repair or restore any Project Facility which is damaged or destroyed by accident, fire, or other casualty, except that the Department shall repair or restore any such facility to the extent necessary to protect the public health and safety, continue and complete the Project, or as may be reasonably required in connection with any responsibilities the Authority may have with respect to the Center upon completion of the Project and the Department shall decontaminate and decommission any other damaged or destroyed facility pursuant to Section 3.02 of this Agreement.

Section 4.10. Responsibility for Project Premises and Facilities. If the Department shall not occupy the Project Premises by October 1, 1981, the cost of operation and maintenance of the Project Premises and Project Facilities during the Project Term, including the management of the radioactive materials and wastes stored therein, and protection of public health and safety shall nevertheless be deemed Project Costs, payable by the Department.

Section 4.11. Additional Department Services.

(a) To provide for the efficient management of the Project Premises and Project Facilities during the Project Term, the Department shall:

(i) accept such quantities of wastewater as are generated as a result of the maintenance of the facilities used for

the disposal of low level radioactive wastes within the Retained Premises and treat such wastewater at treatment facilities, whether existing or hereafter constructed, on the Project Premises. As used in this subsection, the word "treat" includes, but is not limited to, the use of chemical and/or physical processes for the removal of pollutants, including radioactive materials, from wastewaters, the discharge of such wastewaters after the application of such physical and/or chemical processes, and the disposal of any solid wastes resulting therefrom;

(ii) in connection with its responsibility for operation and maintenance of the Fuel Storage and Receiving Area at the Center for use in the Project, be responsible as agen of the Authority for the management, maintenance and surveillance of the irradiated nuclear fuel elements now stored therein; and

(iii) provide general site surveillance and security services for the Retained Premises and Facilities.

The Incremental Cost of providing the foregoing services shall be the sole and exclusive responsibility of the Authority, and the Authority agrees to promptly reimburse the Department for such Incremental Cost. As used in this Section, the term "Incremental Cost" means any costs which would not have been incurred but for the service being rendered and shall include, but not be limited to, (A) costs of alterations or repairs attributable to the maintenance of the irradiated nuclear fue elements stored in the Fuel Receiving and Storage Area; (B)

the cost of any claims, damage, losses, and expenses (including reasonable attorney's and expert witness' fees) arising out of or resulting from the performance of the services described in this Section, except where such claim, damage, loss, or expense results from the negligence of the Department, its contractors, employees, or agents; and (C) increases in operating expenses attributable to the services rendered.

(b) The Department shall consult with, and obtain the approval of, the Authority with respect to any extraordinary expenses which it proposes to incur in connection with providing services under this Section. In the event that the Authority withholds such approval, it shall be responsible for any damages or claims resulting therefrom.

Section 4.12. Utility and Transportation Services. Commencing October 1, 1981, the Department shall pay or cause to be paid, all charges or expenses for gas, electricity, heat, water, steam, and power and for telephone, communications, and protective services and for all other public or private utility services and all public or private rail or highway services which shall be used, rendered, or supplied upon, to or in connection with the Project Premises and Project Facilities or any part thereof at any time during the remainder of the Project Term and shall do all other things reasonably required for the continuance of all such services as the Department determines are necessary or useful in the proper maintenance and operation of the Project Premises and Project Facilities.

## ARTICLE V

## COST OF THE PROJECT

Section 5.01. Estimated Cost of the Project. The Total Project Costs are estimated by the Department to be two hundred eighty-five million dollars ($285,000,000).

Section 5.02. Cost-Sharing. The Department shall pay ninety percent (90%) of the Total Project Costs and the Authority shall pay ten percent (10%) of such costs in the manner set forth in Section 5.03. The Authority may not use Federal funds to pay its share of the cost of the Project. The Department and the Authority shall use their best efforts to minimize Total Project Costs.

Section 5.03. Accounting for Project Costs.

(a) Within sixty days after the end of each Federal fiscal year commencing on or after October 1, 1980, and continuing until the end of the Federal fiscal year in which the Project Completion date occurs, the Department shall deliver to the Authority an accounting of all Project Costs incurred by the Department during the preceding Federal fiscal year ("Annual Project Costs").

(b) The Authority shall pay its share of the Annual Project Costs for any particular Federal fiscal year on or before the next July 1 after the Department delivers its accounting for that year, in the following manner:

(i) by expending funds for the provision of services ("Authority Services") as agreed pursuant to Section 5.03(d) for the applicable Federal fiscal year;

(ii) by expending a portion ("Annual Authority Facility Credit") of the Authority's credit for the value of making the Project Premises, Project Facilities, and Additional Facilities available to the Department pursuant to Article IV of this Agreement, which premises and facilities for the purpose of this Agreement have been determined by the Department to have a value to the Project of twelve million dollars ($12,000,000), which is hereby credited to the Authority beginning October 1, 1981, provided, however, that if the Project has not been completed within ten years from the date of this Agreement and the entire twelve million dollar credit has been expended, the Authority and the Department shall determine by amendment to this Agreement a further credit to the Authority for the value of the further use of the Project Premises, Project Facilities, and Additional Facilities for the Project for the additional time necessary to complete the Project; and

(iii) by paying the balance to the Department by check or other negotiable instrument.

(c) If, for any Federal fiscal year, the sum of the funds that the Authority expended providing Authority Services pursuant to Section 5.03(b)(i) and the Annual Authority Facility Credit expended pursuant to Section 5.03(b)(ii) exceeds the Authority's share of the Annual Project Costs for that year, then such excess expenditures in providing Authority Services shall be credited to the Authority as the expenditure of funds

for the provision of Authority Services in the next succeeding Federal fiscal year in addition to the funds expended in such succeeding year as agreed pursuant to Section 5.03(d).

(d) Before the commencement of the Federal fiscal year commencing October 1, 1981, and before the commencement of each succeeding Federal fiscal year until the Project is completed, the Department and the Authority shall agree in writing on Authority Services to be provided to the Project during the next Federal fiscal year and the amount of funds to be expended by the Authority in providing those services, which shall include, but need not be limited to, the services described in Exhibit E. Authority Services and the value thereof may be adjusted or modified during the applicable Federal fiscal year upon agreement in writing between the Department and the Authority. During the Federal fiscal year ending September 30, 1981, credit shall be given for Authority Services in the amount of five hundred seventy-five thousand dollars ($575,000) and the Authority shall provide an accounting to the Department for providing such services.

Section 5.04. Adjustments. All values or estimates of costs used in this Article are expressed in 1980 dollars. The Department and the Authority recognize that the Total Project Costs will require revision, from time-to-time, to account for the effects of inflation and other factors. The Department and the Authority also recognize that the value of the Project Premises, Project Facilities, Additional Facilities, and Authority Services to the Project will likewise require revision, from time-to-time, to account for the effects of inflation and other factors.

## ARTICLE VI

## LICENSING AND COMPLIANCE WITH LAWS

Section 6.01. Technical Assistance: Application to the Commission. The Department shall provide the Authority with technical assistance in securing regulatory license amendments or changes as may be required or appropriate in connection with the Project. As provided in the Act, the Department and the Authority shall cooperate in the joint submission to the Commission of an application for any such licensing amendment or change as may be required to carry out the Project.

Section 6.02. Licensing. The Authority, with the technical assistance of the Department, shall make timely application to the Commission for such licensing action, if any, as may be required for the Authority to assume possession of the Project Premises and Project Facilities upon completion of the Project.

Section 6.03. Compliance with Legal Requirements. The Department shall be responsible for compliance with all Legal Requirements applicable to its participation in the Project, including without limitation, the National Environmental Policy Act of 1969, and the Authority shall be responsible for compliance with all Legal Requirements applicable to its participation in the Project, including without limitation the New York State Environmental Quality Review Act; provided, however, that nothing in this Agreement shall be deemed to constitute a waiver of sovereign immunity by either the Department or the Authority not shall it otherwise affect the Department's rights under the Supremacy Clause of the United States Constitution. The Department and the Authority shall cooperate in the preparation of such environmental analyses of the Project as may be required under Federal and State

law, and the Authority shall coordinate the review by all State agencies of all such environmental analyses. Actions by the Department and the Authority under this agreement will only be taken in accordance with the applicable legal requirements of the National Environmental Policy Act and the New York State Environmental Quality Review Act, respectively.

## ARTICLE VII

## INDEMNIFICATION

Section 7.01. Indemnification.

(a) Subject to the provisions of Section 11.02, the Department shall indemnify and hold the Authority and the State (and their respective members, officers, employees, and agents) harmless from all claims, damages, losses, and expenses (including reasonable attorney's and expert witness' fees) or liabilities, arising out of or resulting from the performance of (or failure to perform) the Department's obligations hereunder.

(b) Subject to the provisions of Section 11.02, the Authority shall indemnify and hold the Department and the United States of America (and their respective members, officers, employees, and agents) harmless from all claims, damages, losses, and expenses (including reasonable attorney's and expert witness' fees) or liabilities, arising out of or resulting from the performance of (or failure to perform) the Authority's obligations hereunder.

## ARTICLE VIII

## PROJECT PLANS, REPORTS, CONSULTATION, AND COORDINATION

Section 8.01. Annual Project Plan and Budget. Before the commencement of the Federal fiscal year commencing October 1, 1981 and before the commencement of each succeeding fiscal year until the Project is completed, the Department shall prepare:

(a) an annual plan for the implementation of the Project (the "Annual Project Plan") which shall (i) report on progress achieved during the current Federal fiscal year in implementing the Project, significant obstacles or problems encountered in implementing the Project, and proposed solutions to such obstacles or problems; and (ii) detail all major actions to be taken, decisions required to be made, and work to be performed in connection with the Project during the next fiscal year and to complete the Project; and

(b) an annual budget for the implementation of the Project (the "Annual Budget") which shall detail all estimated expenditures and costs which : (i) have been incurred as Project Costs; (ii) will be incurred as Project Costs during the current and next fiscal year; and (iii) will be required to complete the project.

The Annual Project Plans and Annual Budgets shall be in sufficient detail to allow determinations to be made under Sections 8.02 and 8.03 and may be the report submitted to Congress under Section 4 of the Act if it contains the information described above. Any amendment of the Annual Project Plans and Annual Budgets shall conform to the foregoing requirements. The Department

shall carry out the Project in accordance with the Annual Project Plans and Annual Budgets, as amended. The Annual Project Plans and Annual Budgets and any amendments thereto shall be provided to the Authority promptly after preparation.

Section 8.02. Consultation and Agreement in Certain Events. The Department shall consult with the Authority with respect to the development of, and any amendment to, the Annual Project Plans and Annual Budgets and the Authority's agreement shall be required with respect to matters contained therein (or other major decisions in carrying out the Project) that materially affect obligations (i) which the Authority may have with respect to the Center after the completion of the Project, or (ii) which the Authority may have exclusive of the Project; provided, however, that the agreement of the Authority shall not be required with respect to the decontamination and decommissioning of Project Facilities at the Center pursuant to Commission requirements under Section 3.02(c)(vi).

Section 8.03. Resolution of Disputes as to Project Costs. In the event the Department and the Authority are unable to agree through their respective normal management chains with respect to any matter contained in the Annual Project Plans and Annual Budgets (or any amendment thereto) that materially affects Total Project Costs, then either the Department or the Authority may refer the matter to the Secretary and the Governor of the State of New York for resolution. Pending such resolution, costs associated with such matter shall not be included in the determination of Annual Project Costs pursuant to Section 5.03. The Department may also elect not to fund activities with respect to such matter until such resolution. The provisions of this Section 8.03 shall not apply if the Department determines that the resolution of the matter as proposed by the Authority would present an unreasonable risk to public health and safety.

Section 8.04. Consultation and Coordination. Before October 1, 1981, the Department and the Authority shall develop and mutually agree upon detailed plans to assure continued consultation and coordination between the Department and the Authority during the Project Term. These plans shall include, but need not be limited to, provision for the following:

(a) the Authority's designation of a Project Engineer who is intended to be resident at the Center during the Project;

(b) periodic meetings (to be held not less often than monthly) of the Department's Project Manager and the Authority's Project Engineer; attendance by the Authority's Project Engineer at other project meetings when mutually agreed on, but such agreement shall not unreasonably be withheld.

(c) the Authority's receipt of direct distribution of all Department Monthly Integrated Project Reports, draft and final contractors' technical reports received by the Department, and reasonable access to such other documents bearing on the Project as the Authority may request, subject to any proprietary rights retained by the Department's contractors and patent clearance procedures;

(d) the development of Emergency Preparedness Plans coordinating Federal, State, and local actions and responsibilities in the event of an emergency at the Center, which shall be submitted to the Commission for comment;

(e) receipt by the Authority's Project Engineer of all baseline plans and specifications for the construction of major changes, alterations, or additions to the Project Facilities and Additional Facilities which require Department approval;

(f) the Department's receipt of environmental surveillance reports affecting the Project and reasonable access to such other documents in the control of the State which bear on the Project; and

(g) the Department's receipt of plans and schedules for the maintenance and repair of facilities within the Retained Premises.

Section 8.05. Notice and Consultation in Certain Events. The Department shall promptly notify and consult with the Authority's Project Engineer with respect to (a) any unexpected developments or material problems that may develop in implementing the Project or fulfilling the Department's responsibilities under this Agreement; and (b) any event occurring at the Project Premises or Project Facilities which affects, of* may affect, public health or safety.

Section 8.06. Authority's Right of Inspection. Throughout the Project Term, the Authority shall have the right to enter upon the Project Premises and Project Facilities for the purpose of inspecting the same and of observing the progress of the Project. Such entry shall be at reasonable times and in a manner which does not interfere with the Department's obligations under this Agreement. Nothing contained in this Agreement shall be construed as creating or implying any duty on the part of the Authority to make any such inspection or to make any repairs or remedy any defect disclosed thereby and the Authority shall incur no liability or obligation for failing to make any such inspection or repairs or to remedy any such defect, or, once having undertaken any such inspection, for not making the same carefully or properly. No commencement or completion by the Authority of any such inspection shall create or imply any such duty, liability, or obligation or constitute a waiver by the Authority in respect of any matters disclosed thereby.

* and "or may affect".

Section 8.07. Consultation in Contractor Selection and Evaluations. The Authority shall not be a member of the Source Evaluation Board ("the Board"); provided, however, that:

(a) draft copies of the statement of work, evaluation criteria, including rating sheets minus the weights or values assigned therein, and subsequently the Request For Proposals ("RFP"), will be made available to not more than three Authority employees or consultants designated by the Authority (the "Authority Representatives") and the Authority Representatives will be afforded opportunities to consult with the Board by submitting written comment and/or meeting with the Board prior to: (i) final decisions with respect to the statement of work and evaluation criteria; and (ii) issuance of the RFP;

(b) Authority Representatives shall have the opportunity to review the technical proposals, cost proposals, and to meet and consult with the Board with respect thereto prior to establishment of a competitive range. Schedule of timing of reviews shall be arranged by the Authority with the Board;

(c) Authority Representatives shall have the opportunity to participate as observers in the oral presentation and site visit for all proposers in the competitive range and thereafter will have the opportunity to consult with the Board prior to final ranking of proposers;

(d) Authority Representatives shall have the opportunity to attend and participate in the briefing of the Source Selection Officer, including an opportunity at the briefing to review all materials made available at the briefing. The Chairman of the Authority shall be promptly notified of the final selection;

(e) the Department shall also provide for the Authority's participation in periodic contractor management reviews and evaluations and shall furnish audit reports and contractor management review and evaluation reports for the Authority's review; and

(f) Authority Representatives shall execute confidentiality certificates and conflict of interest certificates in the form the Department prescribes for members of the Board.

Section 8.08. No Limitation on Responsibilities. All actions by the Department and the Authority under this Article shall be taken in a timely manner consistent with the expeditious completion of the Project and the Department's procurement schedule. Neither the provisions of this Article nor any action taken by the Authority (or the failure of the Authority to take any such action) under this Article shall limit or affect the Department's rights or responsibilities under this Agreement.

## ARTICLE IX

## ASSIGNMENTS

Section 9.01. Assignments. This Agreement may not be assigned by either the Department or the Authority except (a) by operation of law; or (b) by the Authority in connection with the transfer of the Center or any portion thereof to any agency, authority, or instrumentality of the State of New York.

## ARTICLE X

## INSURANCE

Section 10.01. Price-Anderson Act. Prior to October 1, 1981, the Department shall determine, pursuant to 41 C.F.R. 9-10.5005, whether to extend an indemnity to any contractor it may retain with respect to its responsibilities at the Center under this Agreement. If the Department determines to extend an indemnity to its contractor under Section 170(d) of the Atomic Energy Act of 1954, as amended, and 41 C.F.R. Subpart 9-10.50, the Authority shall be a person indemnified to the extent that the Authority incurs public liability for a nuclear incident or extraordinary nuclear occurrence (as the underlined terms are defined in the Atomic Energy Act of 1954 as amended) arising out of or in connection with the activities covered by such indemnity. The Authority shall be furnished with a copy of any agreement containing the terms of such indemnity.

Section 10.02. Other Insurance. If the Department obtains, or authorizes or requires any of its contractors or subcontractors, regardless of tier, to obtain public liability insurance, property damage insurance, or insurance against any hazard, the Authority shall be named as an additional insured. The Authority shall be furnished with a certificate evidencing any such insurance.

## ARTICLE XI

## MISCELLANEOUS

Section 11.01. No Waiver. Nothing herein shall constitute or imply any waiver by the Authority of any claims it may have against NFS or any other party under the West Valley Agreements or otherwise in connection

with the Center; provided that the foregoing shall not be construed as affecting the respective rights and liabilities as between the Department and the Authority as provided in the Act.

Section 11.02. Availability of Funds. The respective undertakings of the Department and the Authority under this Agreement are conditioned upon the availability of appropriated funds.

Section 11.03. General Conditions. Subject to the provisions of Section 11.04 of this Agreement, the General Conditions attached hereto as Exhibit F are incorporated herein by reference.

Section 11.04. Order of Precedence. In the event of an inconsistency among provisions of this Agreement, the inconsistency shall be resolved by giving precedence as follows:

(a) Cooperative Agreement Articles;

(b) Exhibits; and

(c) General Conditions.

Section 11.05. Counterparts, Etc. Neither this Agreement nor any term hereof may be changed, waived, discharged, or terminated orally, but only by an instrument in writing signed by the party against which enforcement of the change, waiver, discharge, or termination is sought. The headings in this Agreement are for convenience of reference only, and shall not define or limit the terms hereof. Except as provided herein, all the terms of this Agreement shall be binding upon and inure to the benefit of and be enforceable by the respective successors and assigns of the parties hereto. This Agreement may be executed in any number of counterparts, each of which shall be an original but all of which together shall constitute one and the same instrument.

IN WITNESS WHEREOF, the parties have caused this Agreement to be executed by their respective officers thereunto duly authorized as of the date set forth above.

UNITED STATES DEPARTMENT OF ENERGY

(SEAL)

By James B. Edwards*
(Secretary)

NEW YORK STATE ENERGY RESEARCH AND DEVELOPMENT AUTHORITY

By James L. Larocca
(Chairman)

I, Carmine J. Clemente, certify that I am the Secretary of the New York State Energy Research and Development Authority; that James L. Larocca, who signed this document on behalf of the Authority was then Chairman of the Authority; that this document was duly signed for and on behalf of the Authority by authority of its governing body and is within the scope of its legal powers.

IN WITNESS WHEREOF, I have hereunto affixed my hand and the seal of the New York State Energy Research and Development Authority.

/s/Carmine J. Clemente
Carmine J. Clemente
Secretary

(SEAL)

*The original Agreement was signed on behalf of the Department by Under Secretary Worth Bateman.

EXHIBIT A

Retained Premises

ALL THAT TRACT AND PARCEL OF LAND consisting of 3,330.925 acres more or less, situated in the Town of Ashford, County of Cattaraugus (Parcel 1) and 14.35 contiguous acres, more or less, situated in the Town of Concord, County of Erie (Parcel 2) as shown on a map (annexed hereto as Map No. 1) depicting the Western New York Nuclear Service Center prepared by Lockwood, Kessler & Bartlett, Inc. Consulting Engineers, for the State of New York Office of Atomic Development, and revised by Pratt, Edwards & Moncreiff, P.C. on January 2, 1969 being bounded and described as follows:

PARCEL 1

ALL THAT TRACT OR PARCEL OF LAND acquired in the name of The People of the State of New York by appropriation in the manner provided by Section 30 of the Highway Law pursuant to the provisions of Article 19-D of the Executive Law, described in and shown on Map No. 1 (a) filed in the office of the Department of Public Works of the State of New York on June 15, 1961, (b) filed in the Department of State of the State of New York on June 16, 1961, and (c) filed in the office of the County Clerk of Cattaraugus County on June 20, 1961, such tract or parcel of land being situate in the Town of Ashford, County of Cattaraugus, State of New York, being all of Lots 56, 61, 62, 63 and 67 and part of Lots 49, 50, 55, 57, 64, 66, 68, 69, 70 and 74 in Township 6, Range 6, also part of Lots 32, 40 and 48 in Township 5, Range 6 of Holland Land Company survey, bounded and described as follows:

COMMENCING at a point on the sourtherly line of Lot 61, said point being at the northwest corner of Lot 40 and the northeast corner of Lot 48, thence westerly along the southerly line of said Lot 61, 588.240 feet to the point of beginning, said point of beginning being the intersection of the southwest corner of Lot 61 and the southeast corner of Lot 66 with the north line of Lot 48, thence westerly along the southerly line of Lot 66, 1,536.078 feet to a point, thence northerly through the property of Clinton Johnson (reputed owner), on a line parallel to the easterly line of said Lot 66, 1,128.595 feet to the southeasterly corner of property of Ollis Beason and Dolores Beason (reputed owners), thence westerly along southerly property line of Ollis Beason and Dolores Beason (reputed owners) and Ralph V. Wilcox (reputed owner), 2,332.156 feet to a point on the westerly line of Lot 66, said point being 1,155.267 feet distant northerly along said westerly line of Lot 66 from a point, said point being the corner formed by the intersection of the boundaries of Lots 66 and 71 in Township 6, and Lot 56 in Township 5; thence northerly along the said westerly line of Lot 66 and continuing along the westerly line of Lot 67, 6,757.415 feet to a point, said point being the corner formed by the intersection of the boundaries of Lots 67, 68, 72 and 73; thence easterly along the northerly line of Lot 67, 1,030.00 feet to a point on the easterly boundary line of Boberg Road, thence northwesterly along the said easterly boundary line of Boberg Road as it winds and turns, 361.350 feet to a point on the division line between the property of Emerson B. Carl and Judith W. Carl (reputed owners) on the west and the property of Arthur O. C. Gross and Virginia E. Gross (reputed owners) on the east; thence northeasterly along said division line on a course N21°47'17"E 440.00 feet to a point; thence through the property of Arthur O. C. Gross

and Virginia E. Gross (reputed owners) on a course N35°08'30"E 1,126.662 feet to a point on the easterly boundary line of Rock Springs Road; thence northerly along the said easterly boundary line of Rock Springs Road; thence northerly along the said easterly boundary line of Rock Springs Road as it winds and turns 564.873 feet to a point on the division line between the property of Arthur Gross and Marion Mall (reputed owners) on the south, and the property of Robert J. Burns and Mary Lou Burns (reputed owners) on the north; thence westerly along the southerly boundary line of property of Robert J. Burns and Mary Lou Burns (reputed owners) S89°23'26"W 347.328 feet to a point, said point being the southwest corner of the property of Robert J. Burns and Mary Lou Burns (reputed owners); thence along the division line between the property of Robert J. Burns and Mary Lou Burns (reputed owners) on the east, and the properties of Edward Warzel and Sarah Warzel and Russell C. Miller and Pearl Miller (reputed owners) on the west N1°56'45"E 875.317 feet to the northwest corner of property of Robert J. Burns and Mary Lou Burns (reputed owners); thence easterly along the division line between the property of Robert J. Burns and Mary Lou Burns (reputed owners) on the south, and the property of Albert C. Pearce and Ruth E. Pearce (reputed owners) on the north, S89°38'24"E 40.014 feet to the easterly boundary line of Rock Springs Road; thence along said easterly boundary line of Rock Springs Road, 842.592 feet to the northerly line of Lot 68; thence easterly along the said northerly line of Lot 68, 1,147.324 feet to a point, said point being 1,342.694 feet westerly along said northerly line of Lot 68, from a corner formed by the intersection of the boundaries of Lots 63, 64, 68 and 69; thence northerly along the division line between the property of Albert C. Pearce and Ruth E. Pearce (reputed owners) on the east and the property of Eagle Tree Farms, Inc. (reputed owner) on the west, on a course N1°41'28"E 904.058 feet to a point on the northerly boundary line of the Baltimore and Ohio Railroad Company (formerly the Buffalo, Rochester and Pittsburgh Railway Company); thence northwesterly along the said northerly boundary line of the Baltimore and Ohio Railroad Company (formerly the Buffalo, Rochester and Pittsburgh Railway Company), the following twenty-six (26) courses and distances: N40°56'57"W 221.222 feet, on a curve to the right, having a radius of 922.37 feet, a length of 241.744 feet N25°55'57"W 210.300 feet, on a curve to the left, having a radius of 988.37 feet, a length of 375.194 feet N47°40'57"W 415.100 feet, on a curve to the left, having a radius of 1,179.28 feet, a length of 386.948 feet, N66°28'57"W 171.500 feet, N23°31'03"E 51.10 feet, N66°28'57"W 110.60 feet, S23°31'03"W 50.00 feet, N66°28'57"W 73.40 feet, on a curve to the right, having a radius of 1,877.08 feet, a length of 397.503 feet, N54°20'57"W 313.800 feet, on a curve to the right having a radius of 922.37 feet, a length of 404.606 feet, N29°12'57"W 5.70 feet, N86°47'03"E 46.90 feet, on a curve to the right, having a radius of 880.37 feet, a length of 14.70 feet, N29°12'57"W 134.40 feet, on a curve to the left, having a radius of 1,030.37 feet, a length of 543.697 feet, N59°26'57"W 53.30 feet, N29°40'04"E 197.721 feet, N60°51'57"W 374.800 feet, N20°13'57"W 182.00 feet S29°12'03"W 308.900 feet, and on a curve to the left having a radius of 2,939.93 feet, a length of 203.792 feet, and N66°51'57"W 257.815 feet to a point; thence northerly along the division line between the property of David and Helen Reed (reputed owners) on the east, and the property of Charles Edie (reputed owner) on the west N1°28'27"E 1,264.649 feet to a point; thence northwesterly through the property of Charles Edie (reputed owner) N22°27'14"W 623.173 feet and continuing on the same course through the property of David and Helen Reed (reputed owners) N22°27'14"W 1,373.013 feet to a point on the southerly bank of Cattaraugus Creek; thence easterly and northerly along said southerly bank

of Cattaraugus Creek as it winds and turns, the following four (4) courses and distances: S71°06'18"E 157.486 feet, S84°25'17"E 432.046 feet, N82°59'00"E 196.471 feet, and N44°47'46"E 198.698 feet to a point; thence southerly through the property of David and Helen Reed (reputed owners), the following two (2) courses and distances: S15°06'32"W 583.156 feet, and S22°56'13"E 862.168 feet to a point on the southerly boundary line of Emerson Road; thence southeasterly along the said southerly boundary line of Emerson Road as it winds and turns 1,284.287 feet to a point on the easterly line of Lot 74, said point being 1,462.00 feet distant northerly along said easterly line of Lot 74 from the corner formed by the intersection of the boundaries of Lots 69, 70 and 74; thence southerly along the said easterly line of Lot 74, 590.249 feet, thence southeasterly through the properties of Frederick C. Waterstram and Gladys E. Waterstram and Lorraine Deif (reputed owners) S39°40'52"E 2,986.63 feet to the southerly boundary line of Hayes Hollow Road; thence easterly and northerly along the said southerly boundary line of Hayes Hollow Road as it winds and turns 1,426.026 feet to a point; thence southeasterly through the property of Sidney P. Hayes (reputed owner) S68°43'07"E 462.908 feet to a point on the easterly line of Lot 69, said point being 1,320.699 feet distant southerly along said easterly line of Lot 69 from a corner formed by the intersection of the boundaries of Lots 64, 65, 69 and 70; thence continuing still through the property of Sidney P. Hayes (reputed owner) S68°43'07"E 2,021.513 feet to a point on the division line between the property of Sarah F. Emerson (reputed owner) on the east and Sidney P. Hayes (reputed owner) on the west; thence along said division line S2°03'30"W 1,200.00 feet to a point, said point being the southwest corner of property of Sarah F. Emerson (reputed owner); thence easterly along the division line between the property of Sarah F. Emerson (reputed owner) on the north, and Raymond Nelson (reputed owner) on the south, N89°53'16"E 720.06 feet to a point, said point being the southeast corner of property of Sarah F. Emerson (reputed owner); thence southerly along the division line between the property of Gordon Smith (reputed owner) on the east and Raymond Nelson (reputed owner) on the west, S2°03'30"W 825.00 feet to the southerly line of Lot 64; thence easterly along the said southerly line of Lot 64, 1,362.90 feet to a point, said point being a corner formed by the intersection of the boundaries of Lots 57, 58, 63 and 64; thence southerly along the easterly boundary of said Lot 63, a distance of 1,201.068 feet to a point; thence easterly along the division line between the property of Raymond L. Nelson and Mildred J. Nelson (reputed owners) on the north, and the property of Charles Zefers (reputed owner) on the south, N88°24'18"E 1,820.607 feet to a point on the westerly boundary line of County Road No. 32; thence southerly along the said westerly boundary line of County Road No. 32, 100.382 feet to a point; thence westerly through the property of Charles Zefers (reputed owner) on a line parallel to and 100.00 feet distant southerly from the aforementioned division line between the property of Raymond L. Nelson and Mildred J. Nelson (reputed owners) on the north, and Charles Zefers (reputed owner) on the south S88°24'18"W 1,691.919 feet to a point; thence southeasterly through the properties of Charles Zefers, Marcus N. Zefers and Marie C. Zefers (reputed owners) S55°33'13"E 4,417.530 feet to a point, said point being the corner formed by the intersection of the boundaries of Lots 50, 51, 56 and 57; thence easterly along the northerly line of Lot 50, 750.407 feet to a point; thence southerly on a line parallel to and 750.00 feet distant easterly from the westerly line of Lot 50 and Lot 49, through the properties of Wilson G. Smi and Luella Smith, Florence E. Mooney and Edward F. Fleckenstein, and Pete Simko and Violo Simko (reputed owners) 6,666.676 feet to a point, thence

westerly and still through the property of Peter Simko and Viola Simko (reputed owners) and at right angles to the last mentioned line, N88°39'14"W 298.930 feet to a point, said point being the northeasterly corner of property of Town of Ashford (reputed owner); thence southwesterly along the division line between the property of Peter Simko and Viola Simko (reputed owners) on the northwest and the property of Town of Ashford (reputed owner) on the southeast S52°54'24"W 575.883 feet to a point on the westerly line of Lot 49, said point being 936.628 feet distant northerly along said westerly line of Lot 49, from the corner formed by the intersection of the boundaries of Lots 49, 55 and 32, thence still continuing along the last mentioned division line S52°54'24"W 530.556 feet to the westerly boundary line of the Baltimore and Ohio Railroad (formerly the Buffalo, Rochester and Pittsburgh Railway Company), thence southerly along said railroad boundary 57.359 feet to the northerly boundary of Fox Hollow Road; thence along the northerly and westerly boundary as it winds and turns on said Fox Hollow Road 1,893.311 feet to a point; thence westerly along the division line between the property of Ralph W. Codd and Marjorie A. Codd (reputed owners) on the south and the property of David K. Miller and Adelhide Von B. Miller (reputed owners) on north S89°36'19"W *feet to a point on the westerly line of Lot 32, thence northerly along said westerly line of Lot 32, 169.578 feet to a point, said point being 839.562 feet distant southerly along said westerly line of Lot 32 from a corner formed by the intersection of the boundaries of Lots 32, 40 and 55; thence westerly along the division line between the property of Walter Zefers (reputed owner) on the north and the property of Charles L. Hess and Iona A. Hess (reputed owners) on the south, said division line being parallel to and 839.52 feet distant southerly from the northerly line of Lot 40, 3,878.068 feet to a point on the westerly line of Lot 40, said point being 839.603 feet distant southerly along said westerly line of Lot 40, from a corner formed by the intersection of the boundaries of Lots 40, 48 and 61, thence northwesterly through the property of Charles L. Hess and Iona A. Hess and Walter Zefers (reputed owners) N34°51'01"W 1,018.366 feet to the point of beginning.

SUBJECT, to the following:

1. Rights of others, as their interests may appear, to the continued flow of any streams and water courses within said property.

2. All the right, title and interest, if any, of the United States of America in and to said property.

3. All the right, title and interest of Baltimore and Ohio Railroad Company (formerly Buffalo, Rochester and Pittsburgh Railway Company), its successors and assigns, in and to said property.

4. All the right, title and interest, if any, of public service corporations, their respective successors and assigns, in and to said property for the purposes of constructing, reconstructing, maintaining and operating facilities for the transmission or distribution of electricity, message by means of electricity, fluids and gases.

5. All public roads and highways located within the limits of said property on the date of acquisition of such property by The People of the State of New York, as such public roads and highways may, from time to time, be

*So in the original -- should read "S89°36'19"W 2,484.830 feet".

relocated by mutual agreement of the New York State Atomic Research and Development Authority and Nuclear Fuel Services, Inc.

EXCEPT for an area within that portion of Zone A which lies north of Buttermilk Road and consists of approximately 158.8 acres, as shown and described in Exhibit B as the Project Premises, said description being subject to completion of an accurate survey; and

EXCEPT for an area within that portion of Zone C which lies east of Zone A, such area consisting of approximately 4.574 acres and being bounded and described as follows: Commencing at a point on the centerline of Buttermilk Hill Road, Town of Ashford, designated by Cattaraugus County Department of Highways as P.C. 63+44.12 on Buttermilk Hill Road, said point being on the division line between Lot 55 and Lot 56 and being 1085.86 feet westerly measured along the centerline of Buttermilk Hill Road from the easterly boundary line of the Western New York Nuclear Service Center, thence S1°01'34"E 50.0 feet to a concrete highway marker on the highway boundary line, said highway marker being the point of beginning, thence (1) S88°58'26"W 325.0 feet along the highway boundary line to a point, thence (2) S1°01'34"E 500.0 feet to a point, thence (3) N88°58'26"E 400.0 feet to a point, thence (4) N1°01'34"W 490.0± feet to a point along the highway boundary line, thence (5) S88°58'26"W 75.0 feet to a point, said point being a concrete highway marker, thence (6) N1°01'34"W 10.0 feet to the point of beginning.

All bearings are referenced to True North of the 78°35' Meridian of West Longitude.

PARCEL 2

ALL THAT TRACT OR PARCEL OF LAND acquired in the name of The People of the State of New York by appropriation in the manner provided by Section 30 of the Highway Law pursuant to the provisions of Article 19-D of the Executive Law, described in and shown on Map No. 2 (a) filed in the office of the Department of Public Works of the State of New York on March 1, 1963, (b) filed in the Department of State of the State of New York on March 1, 1963, and (c) filed in the office of the County Clerk of Erie County on March 4, 1963, such tract or parcel of land being situate in The Town of Concord, County of Erie, State of New York, being parts or portions of Lots No. 15 and 16 Township 6, Range 6 of Holland Land Company survey, bounded and described as follows:

COMMENCING at the intersection of the north bounds of the lands of Curtis P. Goodemote (reputed owner) with the east bounds of Lot No. 16; thence S1°45'00"W along the east bounds of the aforesaid Lot No. 16, 1,240 feet to the point of beginning of the herein described parcel; thence along said Lot line S1°45'00"W 250.00 feet to the point of the intersection of the Lot line with the north bank of Cattaraugus Creek; thence following the north bank of Cattaraugus Creek the following courses and distances: S84°00'31"W 246.33 feet to a point; S49°15'00"W 350.00 feet to a point; S16°45'00"W 880.00 feet to a point; S54°15'00"W 300.00 feet to a point; N62°15'00"W 200.00 feet to a point; S86°30'00"W 475.00 feet to a point; thence away from the north bank of Cattaraugus Creek N43°45'00"E 1,450.00 feet to a point; thence N58°15'00"E 780.00 feet to the point of beginning.

SUBJECT, HOWEVER, to the following:

1. Rights of others, as their interests may appear, to the continued flow of any streams and water courses within said property.

2. All the right, title and interest, if any, of the United States of America in and to said property.

3. All the right, title and interest, if any, of public service corporations, their respective successors and assigns, in and to said property for the purposes of constructing, reconstructing, maintaining and operating facilities for the tranmission or distribution of electricity, messages by means of electricity, fluids and gases.

All bearings are computed from the Magnetic and are referenced to True North.

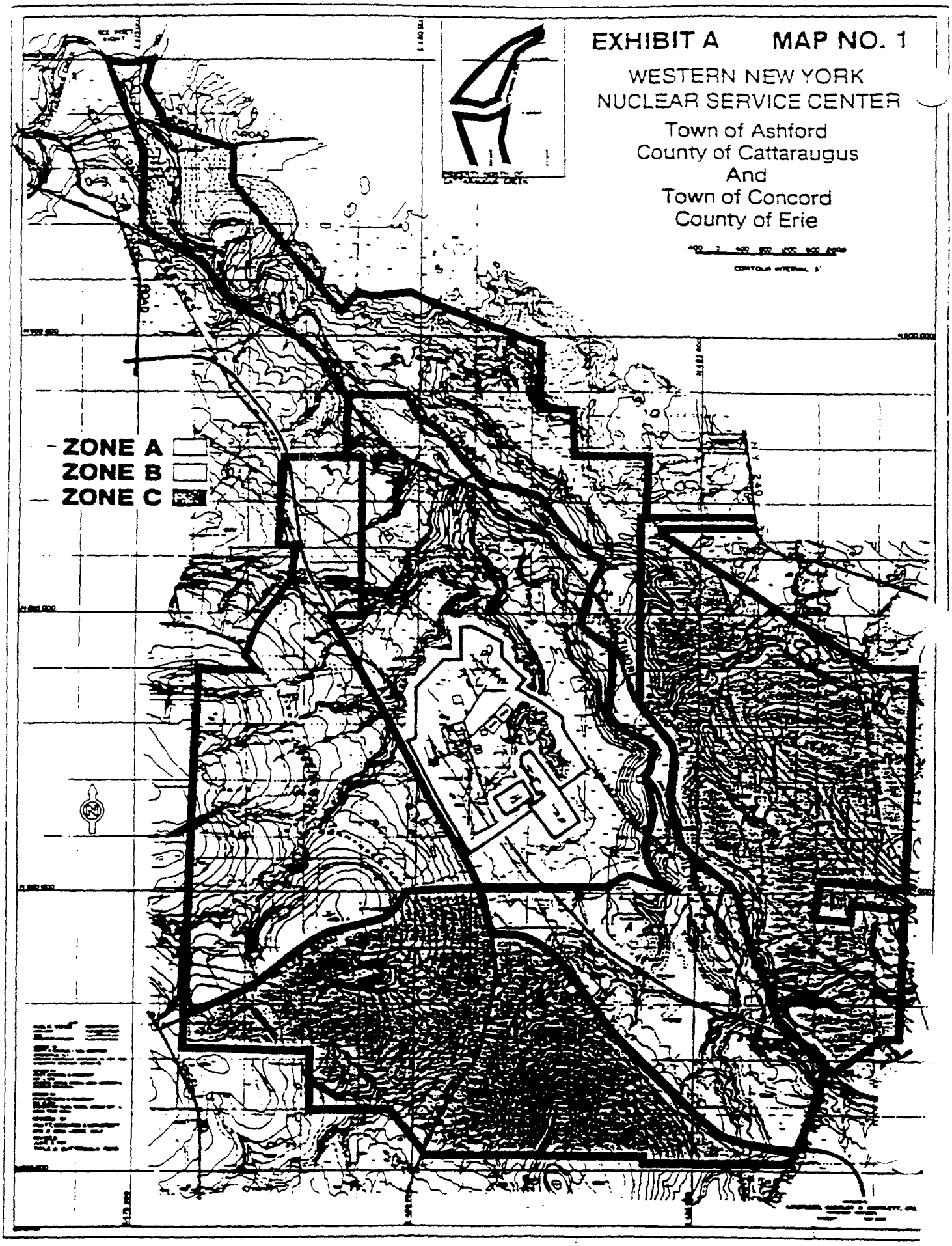


EXHIBIT A MAP NO. 1
WESTERN NEW YORK
NUCLEAR SERVICE CENTER
Town of Ashford
County of Cattaraugus
And
Town of Concord
County of Erie
ZONE A
ZONE B
ZONE C

EXHIBIT B

Project Premises

ALL THAT TRACT AND PARCEL OF LAND situated in the Town of Ashford, County of Cattaraugus consisting of 158.8 acres, more or less, located north of Buttermilk Road in Zone A of a 3,300± acre parcel known as the Western New York Nuclear Service Center (See Exhibit A) as shown and identified on a map annexed hereto as Map No. 2.

SAID AREA consists of all lands and improvements:

(a) Within the perimeter of a six foot chain link fence INCLUDING a 5.1± acre rectangular area situated in the southeastern portion of the parcel identified on a map annexed hereto (Map No. 2) as the NRC Licensed Burial Area but EXCLUDING a 15.5± rectangular area situated in the southeastern portion of the parcel and identified on Map No. 2 as the State licensed Low Level Burial Area; and

(b) Between portions of said fence that run roughly parallel to Buttermilk Road and the northeastern edge of Buttermilk Road INCLUDING an entrance road into the fenced area, an administration building and security station situated on the eastern side of said entrance road and a paved rectangular parking area situated on the western side of said entrance road.

SUBJECT to all restrictions and covenants of record to which the Retained Premises are subject; and

SUBJECT to completion of an accurate instrument survey of the Project Premises, the NRC Licensed Burial Area located therein and the State licensed Low Level Burial Area together with legal descriptions for each area and a current map of said areas to be supplied within sixty days of the date of this Agreement.

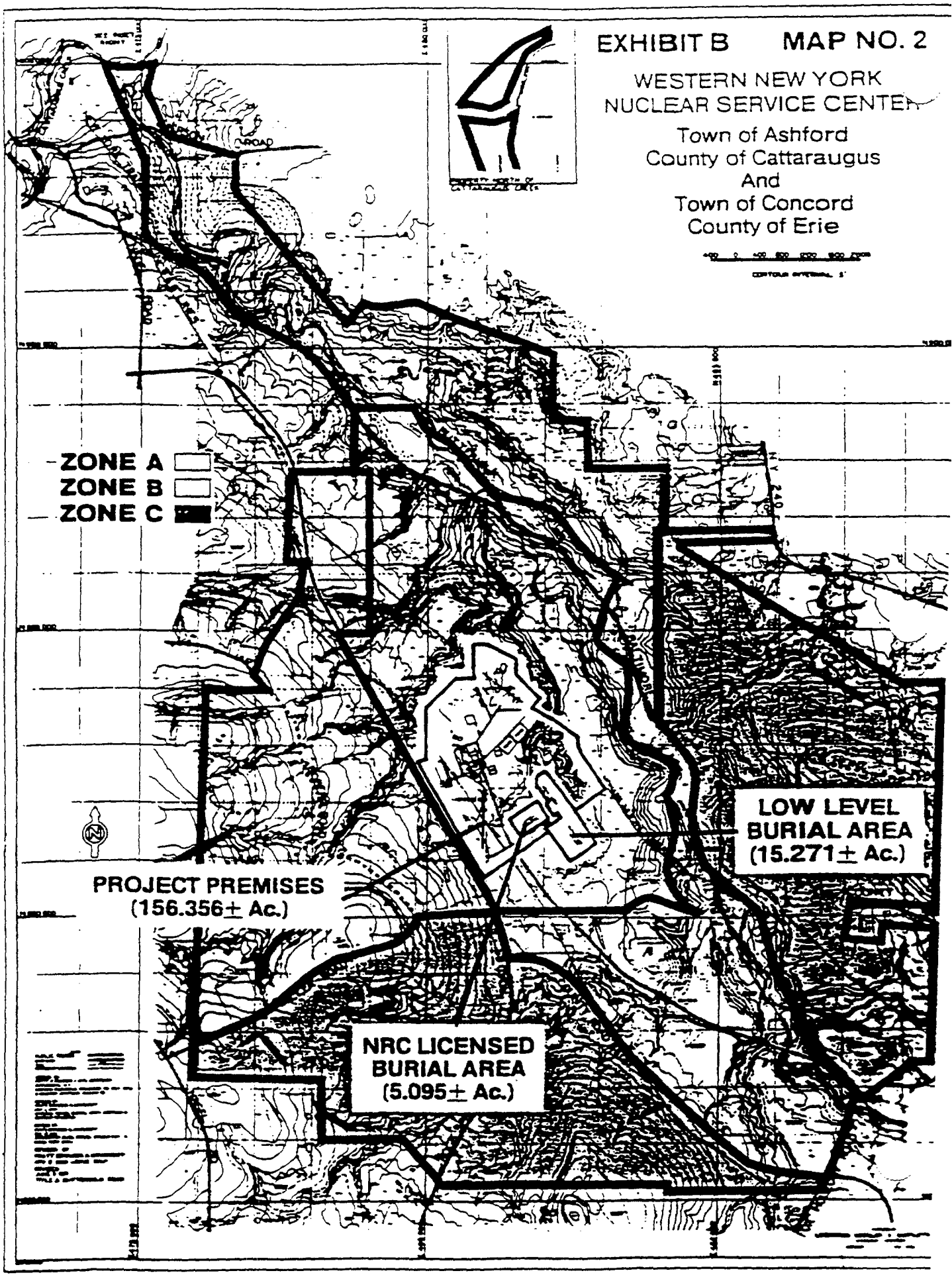


EXHIBIT B MAP NO. 2
WESTERN NEW YORK
NUCLEAR SERVICE CENTER
Town of Ashford
County of Cattaraugus
And
Town of Concord
County of Erie
ZONE A
ZONE B
ZONE C
LOW LEVEL
BURIAL AREA
(15.271± Ac.)
PROJECT PREMISES
(156.356± Ac.)
NRC LICENSED
BURIAL AREA
(5.095± Ac.)

# EXHIBIT C

## Project Facilities

Project Facilities shall consist of all buildings, facilities and improvements, including personal property, equipment and material located on the project premises, including radioactive material and waste, located or stored therein, including, but not limited to, the following:

1. Process plant. The existing facility at the Center used for the receipt, storage and reprocessing of irradiated nuclear fuel elements, including but not limited to the fuel receiving and storage area, analytical laboratories, control room, hot and process cells, offices, stack and associated equipment.

2. Waste storage facilities.

   (a) High level waste tank farm area. The facilities for the storage of liquid radioactive waste, including the off-gas system, samplier*, all electrical, piping, ventilation, filtration, heating, cooling, control, surveillance, and mechanical equipment and instruments.

   (b) Interceptors. Storage pools constructed of concrete and concrete and stainless steel used for temporary storage of radioactive liquid effluents from the plant prior to discharge into the lagoons.

   (c) Storage lagoons. Holding ponds, pumps, pipelines and associated equipment for the storage of liquid radioactive effluents used in conjunction with the low level waste treatment plant, not including holding lagoons in the New York State-licensed burial area.

   (d) Hardstand. The above-ground storage area for the weathering, decay and temporary storage of equipment and materials.

   (e) NRC-licensed waste burial area. The area comprising about 7.2 acres used for the internment of high level solid radioactive wastes.

3. Low level waste treatment facility. The facilities used for processing contaminated aqueous waste from the plant and waste burial area, including the flocculator/clarifier, the centrifuge, filters, ion exchange system, the neutralizer, the pumps, pipes, tanks, ventilation system and related fixtures, machinery, equipment, installations or apparatus affixed thereto or installed in connection therewith.

4. Service facilities.

   (a) Utility room building and utility service facilities. The buildings and facilities used to provide electricity, natural gas, steam, air, water, fuel, drainage, and sewerage, including

*So in the original -- should read "sampler".

but not limited to diesel generators, boilers, compressors pumps, water, oil and chemical storage tanks, cooling tower, transformers, switch gear room, sewer treatment plant, instruments, controls, fire equipment, culverts, ditches, sumps, pits, sludge ponds, and related fixtures, equipment, controls, instruments, installations and related supplies.

(b) Service distribution systems. All air, air conditioning, water, electrical, natural gas, ventilation, sewerage and steam distribution systems, including the electrical power substation, wires, piping, shafts, ducts, mechanical equipment, and the controls and instruments relating thereto.

(c) Administration area. The paved parking area, the administration building known as "the Annex" (including mobile home structures), all furnishings, equipment, carpeting, draperies and supplies.

(d) Warehouse. The building used for storing materials, supplies and spare parts, including the contents thereof and the adjacent incinerator.

(e) Maintenance shops. All buildings, equipment, machinery, supplies and parts used for maintenance, repair and upkeep, including the weld shop and the machine shop.

(f) Laundry. The facility used to launder contaminated or potentially contaminated clothing and materials, including, but not limited to, all associated equipment, lockers and detection equipment located therein.

(g) Railroad spur. The rail line serving the Center, including tracks, road bed and ties.

(h) Environmental monitoring. All facilities and equipment, including air, deposition and water sampliers*, dosimeters and monitors used for detecting the presence and level of radiation.

(i) Meteorological Tower. The meteorological tower, the stack equipment and all other equipment used to monitor and record meteorological data.

(j) Communication towers. All aerials, towers, wires and associated communication equipment used for radio communication.

(k) Service roads. All paved and unpaved improved roadways and walkways which provide access to project facilities.

(l) Service vehicles. All vans, pick-up trucks, stake trucks, maintenance and utility vehicles, tractor trailer trucks, cask trucks, forklifts, work platform vehicles, all-terrain vehicles, cranes, loaders and plows or other associated equipment u[sed] for services at the Center.

*So in the original -- should read "sampliers".

5. Plant security system.

(a) Gate house. The building and equipment through which personnel access to the project facilities is gained.

(b) Chain link fencing. Approximately 12,000 feet of fencing, gates and associated equipment around the plant area, waste burial areas and the high level waste tank farm area.

6. Services. All equipment and supplies used for emergency, first aid, medical, fire, industrial safety, personal* monitoring, training and communication.

*So in the original -- should read "personnel".

# EXHIBIT D

## ADDITIONAL FACILITIES

Additional facilities shall consist of all facilities as may be reasonably necessary to carry out the Project located on that portion of the Center which is not subject to the exclusive use and possession of the Department, including but not limited to, the following:

1. Water supply and discharge. The water supply impoundment, streams, water, pump house, pump, pipeline and associated fixtures, equipment, controls and instruments used for supplying water to and carrying water away from the Project Premises.

2. Railroad spur. The rail line serving the Center, including tracks, ties and road bed.

3. Environmental laboratory. The building known as the "old schoolhouse" south of the Project Premises on Rock Springs Road used for environmental and radiation analysis, including all related equipment, supplies, material, instruments.

4. Environmental monitoring. All facilities and equipment, including air, deposition and water samplers, dosimeters and monitors used for detecting the presence and level of radiation and other environmental information.

# EXHIBIT E

## AUTHORITY SERVICES

The Authority shall provide, or cause to be provided, at least the following Authority Services which benefit the Project: (a) participation in the Project under this Agreement by maintaining at the Authority's main offices sufficient staff and supplies, services, and equipment, and supplemental services, by contract or otherwise, to support said staff, to provide for adequate State participation, review, and monitoring of the Project and to: cooperate with the Department in the preparation of draft and final Federal environmental impact statements with respect to the Project; coordinate the reviews and comments thereon by agencies of the State; comply with the requirements of the State Environmental Quality Review Act; provide information from Authority files to the Department to facilitate the preparation by the Department of the detailed engineering and cost estimates for the Project, the plan for the safe removal of the high-level radioactive waste, and safety analyses required by Section 2(b)(3) of the Act; participate in the joint submission with the Department of applications to the Commission for such licensing amendments as are necessary in relation to the Project; review the Annual Project Plans, Annual Budgets, and other plans, specifications, and cost estimates for any proposed change, alteration, or addition to the Project which requires approval by the Department; and make available to the Department plans, schedules, and such other information as may be available to the Authority which the Department requires for the maintenance and repair of Project Facilities and Additional Facilities; and (b) participation in the Project under this Agreement by maintaining at the Center a Managing Project Engineer and such staff, supplies, equipment, and supplemental services, by contract or otherwise, to support the Managing Project Engineer as may be necessary in support of the activities described in (a) above; the value of the services described herein to equal the Authority's actual expenditures from funds appropriated for the purpose of providing such services, not to exceed, however, $900,000 per annum (1980 dollars), which shall be adjusted to account for inflation in accordance with the CPI index.

EXHIBIT F

GENERAL CONDITIONS

COVENANT AGAINST CONTINGENT FEES

The Authority warrants that no person or selling agency has been employed or retained to solicit or secure this Agreement upon an agreement or understanding for a commission, percentage, brokerage, or contingent fee, excepting bona fide employees or bona fide established commercial or selling agencies maintained by the Authority for the purpose of securing business. For breach or violation of this warranty, the Department shall have the right to annul this Agreement without liability or in its discretion to deduct from the Agreement price or consideration, or otherwise recover, the full amount of such commission, percentage, brokerage, or contingent fee.

OFFICIALS NOT TO BENEFIT

No member of or delegate to Congress, or Resident Commissioner, shall be admitted to any share or part of this Agreement, or to any benefit that may arise therefrom; but this provision shall not be construed to extend to this Agreement if made with a corporation for its general benefit.

EQUAL OPPORTUNITY

During the performance of this Agreement, the Authority agrees as foll[illegible]:

A. The Authority will not discriminate against any employee or applicant for employment because of race, color, religion, sex, or national origin. The Authority will take affirmative action to ensure that applicants are employed, and that employees are treated during employment without regard to their race, color, religion, sex, or national origin. Such action shall include, but not be limited to, the following: employment, upgrading, demotion, or transfer, recruitment or recruitment advertising; layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship. The Authority agrees to post in conspicuous places, available to employees and applicants for employment, notices to be provided by the Secretary of Labor setting forth the provisions of this Equal Opportunity clause.

B. The Authority will, in all solicitations or advertisements for employees placed by or on behalf of the Authority, state that all qualified applicants will receive consideration for employment without regard to race, color, religion, sex, or national origin.

C. The Authority will send to each labor union or representative of workers with which he has a collective bargaining agreement or other contract or understanding, a notice to be provided by the Secretary, advising the labor union or workers' representative of the Authority's commitments under this Equal Opportunity clause, and shall post copies of the notice in conspicuous places available to employees and applicants for employment.

D. The Authority will comply with all provisions of Executive Order No. 11246 of September 24, 1965, and of the rules, regulations, and relevant orders of the Secretary of Labor.

E. The Authority will furnish all information and reports required by Executive Order No. 11246 of September 24, 1965, and by the rules, regulations, and orders of the Secretary of Labor, or pursuant thereto, and will permit access to his books, records, and accounts by the contracting agency and the Secretary of Labor for purposes of investigation to ascertain compliance with such rules, regulations, and orders.

F. In the event of the Authority's noncompliance with the Equal Opportunity clause of this Agreement or with any of the said rules, regulations, or orders, this Agreement may be cancelled, terminated, or suspended, in whole or in part, and the Authority may be declared ineligible for further Government contracts in accordance with procedures authorized in Executive Order No. 11246 of September 24, 1965, and such other sanctions may be imposed and remedies invoked as provided in Executive Order No. 11246 of September 24, 1965, or by rule, regulation, or order of the Secretary of Labor, or as otherwise provided by law.

G. The Authority will include the provisions of paragraphs (A) through (G) in every subcontract or purchase order unless exempted by rules, regulations, or orders of the Secretary of Labor issued pursuant to section 204 of Executive Order No. 11246 of September 24, 1965, so that such provisions will be binding upon each subcontractor or vendor. The Authority will take such action with respect to any subcontract or purchase order as the contracting agency may direct as a means of enforcing such provisions, including sanctions for non-compliance. Provided, however, that in the event the Authority becomes involved in, or is threatened with, litigation with a subcontractor or vendor as a result of such direction by the contracting agency, the Authority may request the United States to enter into such litigation to protect the interests of the United States.

ASSIGNMENT OF CLAIMS

(a) Pursuant to the provisions of the Assignment of Claims Act of 1940, as amended (31 U.S.C. 203, 41 U.S.C. 15), if this Agreement provides for payments aggregating $1,000 or more, claims for money due or to become due to the State from the DOE under this Agreement may be assigned to a bank, trust company, or other financing institution, including any Federal lending agency, and may thereafter be further assigned and reassigned to any such institution. Any such assignment or reassignment shall cover all amounts payable under this Agreement and not already paid, and shall not be made to more than one party, except that any such assignment or reassignment may be made to one party as agent or trustee for two or more parties participating in such financing. Unless otherwise provided in this Agreement, payments to an assignee of any monies due or to become due under this Agreement shall not, to the extent provided in said Act, as amended, be subject to reduction or setoff.

CONVICT-LABOR

In connection with the performance of work under this Agreement, the Authority agrees not to employ any person undergoing sentence of imprisonment except as provided by Public Law 89-176, September 10, 1965 (18 U.S.C. 4082(c)(2)) and Executive Order 11755, December 29, 1973.

BUY AMERICAN ACT

The provisions of the Buy American Act (41 U.S.C. 10a-10d) are applicable to procurements by the Department in the performance of its respective obligations under this Agreement.

PATENTS, DATA, AND COPYRIGHTS

It is agreed that the Department's patent, data, and copyright provisions set forth in 41 CFR Part 9-9 shall control the allocation of all such rights; provided, however, the Department will use its best efforts to obtain on behalf of the Authority at least an irrevocable, non-exclusive paid-up license to make, use and sell any inventions throughout the world; provided, further, that to the extent the Department may be entitled to recoupment by reason of the grant of any waiver of rights under the above Part, the Department will use its best efforts on behalf of the Authority so that the waiver recipient will, in fulfilling its recoupment obligations, share such funds between the Department and the Authority on a pro-rata basis based upon the funding share contributed by each party under the Cooperative Agreement.

## EXAMINATION OF RECORDS BY THE COMPTROLLER GENERAL OF THE UNITED STATES AND THE COMPTROLLER OF THE STATE OF NEW YORK

A. The Authority and the Department agree that the Comptroller General of the United States and the Comptroller of the State of New York, respectively, or any of their duly authorized representatives, shall, until the expiration of three years after final payment under this Agreement or such lesser time specified in the Federal Procurement Regulations, have access to and the right to examine any directly pertinent books, documents, papers, and records of the Authority or the Department, respectively, involving transactions related to this Agreement. For the purposes of applying the Federal Procurement Regulations in connection with this paragraph A and paragraphs B and C, the Comptroller of the State of New York shall be treated in the same manner as the Comptroller General of the United States.

B. The Authority and the Department further agree to include in all their subcontracts hereunder a provision to the effect that the subcontractor agrees that the Comptroller General of the United States and the Comptroller of the State of New York, or any of their duly authorized representatives, shall, under the subcontract or Procurement Regulations, as appropriate, have access to and the right to examine any directly pertinent books, documents, papers, and records of such subcontractor, involving transactions related to the subcontract.

C. The periods of access and examination described in A and B, above, for records which relate to litigation or the settlement of claims arising out of the performance of this Agreement, or services required by this Agreement as to which exception has been taken by the Comptroller General of the United States or the Comptroller of the State of New York, or any of their duly authorized representatives, shall continue until such appeals, litigation, claims, or exceptions have been disposed of.

D. The Authority shall report to the Secretary promptly and in reasonable written detail, each notice or claim of patent or copyright infringement based on the performance of this Agreement of which the Authority has knowledge.

F. In the event of any claim or suit against the Government, on account of any alleged patent or copyright infringement arising out of the performance of this Agreement or out of the use of any supplies furnished or work or services performed hereunder, the Authority shall furnish to the Government, when requested by the Secretary, all evidence and information in possession of the Authority pertaining to such suit or claim. Such evidence and information shall be furnished at the expense of the Government except where the Authority has agreed to indemnify the Government.

EXHIBIT G

WEST VALLEY PROJECT DEMONSTRATION ACT

PUBLIC LAW 96-368 [S. 2443]; October 1, 1980

# WEST VALLEY DEMONSTRATION PROJECT ACT

*For Legislative History of this and other Laws, see Table I, Public Laws and Legislative History, at end of final volume*

An Act to authorize the Department of Energy to carry out a high-level liquid nuclear waste management demonstration project at the Western New York Service Center in West Valley, New York.

*Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled,*

West Valley Demonstration Project Act. 42 USC 2021a note.

SECTION 1. This Act may be cited as the "West Valley Demonstration Project Act".

42 USC 2021a note.

SEC. 2. (a) The Secretary shall carry out, in accordance with this Act, a high level radioactive waste management demonstration project at the Western New York Service Center in West Valley, New York, for the purpose of demonstrating solidification techniques which can be used for preparing high level radioactive waste for disposal. Under the project the Secretary shall carry out the following activities:

Activities.

(1) The Secretary shall solidify, in a form suitable for transportation and disposal, the high level radioactive waste at the Center by vitrification or by such other technology which the Secretary determines to be the most effective for solidification.

(2) The Secretary shall develop containers suitable for the permanent disposal of the high level radioactive waste solidified at the Center.

(3) The Secretary shall, as soon as feasible, transport, in accordance with applicable provisions of law, the waste solidified at the Center to an appropriate Federal repository for permanent disposal.

(4) The Secretary shall, in accordance with applicable licensing requirements, dispose of low level radioactive waste and transuranic waste produced by the solidification of the high level radioactive waste under the project.

(5) The Secretary shall decontaminate and decommission—

(A) the tanks and other facilities of the Center in which the high level radioactive waste solidified under the project was stored,

(B) the facilities used in the solidification of the waste, and

(C) any material and hardware used in connection with the project,

in accordance with such requirements as the Commission may prescribe.

(b) Before undertaking the project and during the fiscal year ending September 30, 1981, the Secretary shall carry out the following:

Hearings.

(1) The Secretary shall hold in the vicinity of the Center public hearings to inform the residents of the area in which the Center is located of the activities proposed to be undertaken under the project and to receive their comments on the project.

(2) The Secretary shall consider the various technologies available for the solidification and handling of high level radioactive waste taking into account the unique characteristics of such waste at the Center.

(3) The Secretary shall—

(A) undertake detailed engineering and cost estimates for the project,

(B) prepare a plan for the safe removal of the high level radioactive waste at the Center for the purposes of solidification and include in the plan provisions respecting the safe breaching of the tanks in which the waste is stored, operating equipment to accomplish the removal, and sluicing techniques,

(C) conduct appropriate safety analyses of the project, and

(D) prepare required environmental impact analyses of the project.

(4) The Secretary shall enter into a cooperative agreement with the State in accordance with the Federal Grant and Cooperative Agreement Act of 1977 under which the State will carry out the following:

41 USC 501 note.

(A) The State will make available to the Secretary the facilities of the Center and the high level radioactive waste at the Center which are necessary for the completion of the project. The facilities and the waste shall be made available without the transfer of title and for such period as may be required for completion of the project.

(B) The Secretary shall provide technical assistance in securing required license amendments.

State costs, percentage.

(C) The State shall pay 10 per centum of the costs of the project, as determined by the Secretary. In determining the costs of the project, the Secretary shall consider the value of the use of the Center for the project. The State may not use Federal funds to pay its share of the cost of the project, but may use the perpetual care fund to pay such share.

Licensing amendment application.

(D) Submission jointly by the Department of Energy and the State of New York of an application for a licensing amendment as soon as possible with the Nuclear Regulatory Commission providing for the demonstration.

(c) Within one year from the date of the enactment of this Act, the Secretary shall enter into an agreement with the Commission to establish arrangements for review and consultation by the Commission with respect to the project: *Provided*, That review and consultation by the Commission pursuant to this subsection shall be conducted informally by the Commission and shall not include nor require formal procedures or actions by the Commission pursuant to the Atomic Energy Act of 1954, as amended, the Energy Reorganization Act of 1974, as amended, or any other law. The agreement shall provide for the following:

42 USC 2011 note.
42 USC 5801 note.

(1) The Secretary shall submit to the Commission, for its review and comment, a plan for the solidification of the high level radioactive waste at the Center, the removal of the waste for purposes of its solidification, the preparation of the waste for disposal, and the decontamination of the facilities to be used in solidifying the waste. In preparing its comments on the plan, the Commission shall specify with precision its objections to any provision of the plan. Upon submission of a plan to the Commission, the Secretary shall publish a notice in the Federal Register of the submission of the plan and of its availability for public inspection, and, upon receipt of the comments of the Commission respecting a plan, the Secretary shall publish a notice in the Federal Register of the receipt of the comments and of the availability of the comments for public inspection. If the Secre-

Publications in Federal Register.

tary does not revise the plan to meet objections specified in the comments of the Commission, the Secretary shall publish in the Federal Register a detailed statement for not so revising the plan.

(2) The Secretary shall consult with the Commission with respect to the form in which the high level radioactive waste at the Center shall be solidified and the containers to be used in the permanent disposal of such waste.

(3) The Secretary shall submit to the Commission safety analysis reports and such other information as the Commission may require to identify any danger to the public health and safety which may be presented by the project. Reports and other information to Commission.

(4) The Secretary shall afford the Commission access to the Center to enable the Commission to monitor the activities under the project for the purpose of assuring the public health and safety.

(d) In carrying out the project, the Secretary shall consult with the Administrator of the Environmental Protection Agency, the Secretary of Transportation, the Director of the Geological Survey, and the commercial operator of the Center. Consultation with EPA and others.

SEC. 3. (a) There are authorized to be appropriated to the Secretary for the project not more than $5,000,000 for the fiscal year ending September 30, 1981. Appropriation authorization. 42 USC 2021a note.

(b) The total amount obligated for the project by the Secretary shall be 90 per centum of the costs of the project.

(c) The authority of the Secretary to enter into contracts under this Act shall be effective for any fiscal year only to such extent or in such amounts as are provided in advance by appropriation Acts.

SEC. 4. Not later than February 1, 1981, and on February 1 of each calendar year thereafter during the term of the project, the Secretary shall transmit to the Speaker of the House of Representatives and the President pro tempore of the Senate an up-to-date report containing a detailed description of the activities of the Secretary in carrying out the project, including agreements entered into and the costs incurred during the period reported on and the activities to be undertaken in the next fiscal year and the estimated costs thereof. Report to Speaker of House and President pro tempore of the Senate. 42 USC 2021a note.

SEC. 5. (a) Other than the costs and responsibilities established by this Act for the project, nothing in this Act shall be construed as affecting any rights, obligations, or liabilities of the commercial operator of the Center, the State, or any person, as is appropriate, arising under the Atomic Energy Act of 1954 or under any other law, contract, or agreement for the operation, maintenance, or decontamination of any facility or property at the Center or for any wastes at the Center. Nothing in this Act shall be construed as affecting any applicable licensing requirement of the Atomic Energy Act of 1954 or the Energy Reorganization Act of 1974. This Act shall not apply or be extended to any facility or property at the Center which is not used in conducting the project. This Act may not be construed to expand or diminish the rights of the Federal Government. 42 USC 2021a note. 42 USC 2011 note. 42 USC 5801 note.

(b) This Act does not authorize the Federal Government to acquire title to any high level radioactive waste at the Center or to the Center or any portion thereof.

SEC. 6. For purposes of this Act: Definitions. 42 USC 2021a note.

(1) The term "Secretary" means the Secretary of Energy.

(2) The term "Commission" means the Nuclear Regulatory Commission.

(3) The term "State" means the State of New York.

(4) The term "high level radioactive waste" means the high level radioactive waste which was produced by the reprocessing at the Center of spent nuclear fuel. Such term includes both liquid wastes which are produced directly in reprocessing, dry solid material derived from such liquid waste, and such other material as the Commission designates as high level radioactive waste for purposes of protecting the public health and safety.

(5) The term "transuranic waste" means material contaminated with elements which have an atomic number greater than 92, including neptunium, plutonium, americium, and curium, and which are in concentrations greater than 10 nanocuries per gram, or in such other concentrations as the Commission may prescribe to protect the public health and safety.

(6) The term "low level radioactive waste" means radioactive waste not classified as high level radioactive waste, transuranic waste, or byproduct material as defined in section 11 e. (2) of the Atomic Energy Act of 1954.

42 USC 2014.

(7) The term "project" means the project prescribed by section 2(a).

(8) The term "Center" means the Western New York Service Center in West Valley, New York.

Approved October 1, 1980.

ATTACHMENT B

SECTION XI

RCRA UNIT SUMMARY

ATTACHMENT TO SECTION XI

RCRA-UNIT SUMMARY

TABLE OF CONTENTS

## RCRA-UNIT SUMMARY

### 1.0 HIGH LEVEL WASTE TANKS - BACKGROUND

There are four (4) below-grade waste tanks at the WVDP that are used to treat and store liquid high-level radioactive waste (mixed waste). For each of the two tank types an identical tank is available to provide backup capacity should the primary tanks fail.

There were two types of high-level liquid radioactive waste generated by Nuclear Fuel Services, Inc. during plant operations (1966 - 1972): PUREX and THOREX waste. The PUREX wastes are high-level wastes that were separated from uranium and plutonium by solvent extraction using the PUREX process. In this process nuclear fuel was leached from its cladding with hot nitric acid. The solution was then subjected to solvent extraction, using the n-dodecane-tributyl phosphate (TBP) solvent to separate the uranium and plutonium from the fission products, which remained in the aqueous phase. The PUREX wastes were contained in carbon steel Tank 8D-2, necessitating neutralization for corrosion control. The neutralization resulted in a two-phased PUREX waste: supernatant (essentially saturated solution of sodium nitrate) and sludge (primarily metal hydroxides).

The THOREX waste was generated from a single reprocessing campaign of thorium-enriched uranium fuel. The fuel was dissolved in nitric acid with 0.05 M fluoride and 0.1 M boric acid. The resulting high level acidic waste was stored in stainless steel Tank 8D-4.

To prepare the PUREX waste for vitrification, the PUREX supernatant was decanted and processed through the WVDP's ion-exchange system to remove the cesium and convert the resulting low-level fraction into a cemented waste form. (See Integrated Radioactive Waste Treatment System (IRTS) process description below.) The remaining sludge in Tank 8D-2 was then washed twice to suspend sulfate salts from the sludge phase to the liquid phase. The waste wash solutions were also decanted and processed through the IRTS. Following the second wash, the THOREX waste was transferred from Tank 8D-4 to Tank 8D-2 where the resultant PUREX/THOREX waste was washed once. The PUREX/THOREX waste wash solution was then decanted and processed through the IRTS. Following the PUREX/THOREX wash processing, the spent (cesium-loaded) ion-exchange media was transferred into Tank 8D-2. The blended PUREX/THOREX sludge and spent ion-exchange media in Tank 8D-2 was first transferred to the Vitrification Facility beginning in mid-1996. (See High Level Waste Vitrification Treatment Facility process description below.) Vitrification of the high-level wastes from Tank 8D-2 is expected to by completed in 2001/2002.

## 1.1 Waste Tanks: 8D-1 and 8D-2

**Hazardous waste management units: 2**

**Description codes: (T01)(S02)**

Each tank rests on a 12-inch layer of perlite blocks, which, in turn, is supported by a 3-inch layer of pea gravel contained in a carbon steel pan. The pan rests on a second 3-inch layer of pea gravel on the vault floor. The vault pad is 27 inches thick except for a thick ring under the columns that support the vault roof. The vault pad rests on a 4-inch leveling slab. Under the concrete vault is 4 feet of pea gravel that is saturated with water, which prevents distortion of the silty till. The gravel bed is penetrated by five 8-inch standpipes that allow for monitoring around each of the two underground vaults. A dewatering well is located between the two tank vaults that is sampled and pumped to control the groundwater table in the area. Sampling of this dewatering well provides another leak detection method for the HLW tank system. The pan and vault are equipped with leak detection and equipment to transfer liquid to the spare tank.

The vault roof is supported by six concrete columns contained in 30-inch diameter steel pipes. These columns penetrate the tank 16 feet from the tank center. The concrete columns pass through 4-feet diameter steel tubes welded to the top and bottom of the tank, leaving a 9-inch annular air space around each column. The vault roof, made of 24 inch thick concrete, was poured integrally with the roof slab and is located over the concrete columns.

Tanks 8D-1 and 8D-2 are identically constructed and have similar instrumentation. The tanks are 70-feet in diameter and 27-feet high. They have a nominal capacity of 750,000 gallons. The tanks are made of carbon steel plate with a thickness of at least 0.5 inch for the sides and bottom and 0.4 inch for the roof. The design corrosion allowance is 0.25 inches at a specific gravity of approximately 1.6. The tanks were designed for a maximum working volume of 600,000 gallons. There is an annular air space of 30 inches between the walls of the tank and the vault. Tanks 8D-1 and 8D-2 were used as process tanks in the IRTS and sludge washing processes. RCRA-nonhazardous cesium-saturated zeolite generated during the IRTS processing campaigns (see IRTS description below) was stored in Tank 8D-1 until 1995 and 1996 when it was blended with the PUREX/THOREX sludge in tank 8D-2. Tank 8D-2 functions as a waste feed tank during vitrification operations. Tanks 8D-1 and 8D-2 currently contain residual mixed HLW and function as process tanks.

As the vitrification process progresses, the composition of the waste remaining in Tanks 8D-1 and 8D-2 results in an increasing concentration of sodium salts to radioactivity remaining. These salts hinder the vitrification efficiency. This liquid is currently being stored in Tank 8D-1 so as not to dilute the high-level waste transfers from 8D-2 to the vitrification facility. The sodium laden supernatant may require stabilization in a process other than vitrification (see IRTS

descriptions below.) After HLW vitrification, tanks 8D-1 and 8D-2 will store residual quantities of waste requiring final radiological characterization/inventory. Storage codes are included for these tanks to allow for the interim period between vitrification and final radiological tanks characterization/inventory.

**1.2 Waste Tanks: 8D-3 and 8D-4**

**Hazardous waste management units: 2**
**Description codes: (T01)(S02)**

The waste tanks are located in a single reinforced concrete vault with outside dimensions of 32 x 19 x 25 feet. The vault is lined to a height of 18 inches with stainless steel, which forms a pan that is equipped with an alarmed sump.

The tanks are constructed of 304 and 304L stainless steel. They are 12 feet in diameter and 16 feet high. Each tank's maximum capacity is 15,000. The working capacity of each tank is 13,410 gallons. Tank 8D-3 is used as a process tank for IRTS (STS), and for condensate collection during vitrification. Tank 8D-3 will also be used to collect waste liquid, i.e., decontamination solutions, from the Remote Handled Waste Facility. Tank 8D-4 was used for storage of the THOREX waste prior to its 1995 transfer to Tank 8D-2 to facilitate its treatment. Tank 8D-4 is currently used in the vitrification process for waste header collection.

## 2.0 INTEGRATED RADIOACTIVE WASTE TREATMENT SYSTEM (IRTS)

**Hazardous waste management units: 1**
**Description codes: (T01)(T04)**

The IRTS is comprised of the Supernatant Treatment System (STS); Liquid Waste Treatment System (LWTS) and the Cement Solidification System (CSS), all of which are further described below. IRTS processing of the high-level liquid radioactive mixed waste (PUREX supernatant and wash water and PUREX/THOREX wash water) was completed in May, 1995. Between 1988 and 1995, approximately 30 STS campaigns were conducted while processing the supernatant and sludge wash liquids. Since the 1996 initiation of Vitrification Operations, the STS has been operated intermittently to process excess liquid accumulating in the high-level waste tanks from sources such as pump seals, line flushing, laboratory samples, and vitrification overheads.

Supernatant Treatment System (STS)

The STS is a zeolite-based ion-exchange system designed to strip cesium, plutonium, and strontium from the PUREX supernatant and sludge wash solutions. The system is installed in high-level waste

Tank 8D-1. This system has four ion-exchange columns and is designed to pass the waste solution through any three columns in series while the fourth is emptied and refilled with zeolite. The STS comprises the following steps for processing PUREX supernatant and sludge wash solutions:

- Supernatant and Sludge Wash Mobilization and Transfer

A vertical turbine pump in Tank 8D-2 is used to decant the liquid through a prefilter and to the STS collection tank, 50-D-001. Alternatively, when Tank 8D-1 is used to store excess liquid, an identical pump in Tank 8D-1 can be used to feed the STS process. In this case, the pre-filter is bypassed and the liquid is sent directly into the 50-D-001 feed tank.

- Supernatant and Sludge Wash Filtering and Cooling

The filtered Tank 8D-2 or 8D-1 solutions are cooled to approximately 6° C and may be diluted with demineralized water to optimize cesium-137 removal.

- Ion Exchange

Following filtration and cooling, the liquid wastes are passed through ion exchange columns containing zeolite. The majority of the cesium, plutonium, and strontium dissolved in solution is adsorbed onto the ion exchange media.

- Decontaminated Supernatant Collection and Transfer

Following ion exchange, the decontaminated solutions are filtered to remove suspended zeolite fines and collected in Tank 8D-3. Following sampling, the decontaminated solution is transferred in batches to the LWTS for concentration.

- Spent Zeolite Discharge

Columns are valved out of the processing series when the zeolite is maximally loaded. Following discharge, the ion exchange column is refilled with fresh zeolite to be used in the ion-exchange series. The discharged zeolite (RCRA-nonhazardous) is held under water at the bottom of Tank 8D-1 until its transfer to Tank 8D-2, where it is homogenized with the PUREX/THOREX sludge and vitrified.

Liquid Waste Treatment System (LWTS)

The LWTS is installed in several decontaminated cells inside the Process Building. The system processes the liquid previously treated in the Supernatant Treatment System. These streams are

processed through an evaporator and concentrated to approximately 20 - 40 wt % solids. Between 1988 and 1995, the concentrates were sent to the Cement Solidification System (CSS) for stabilization in portland cement. Since 1996, the LWTS has been operated to volume-reduce the excess liquid processed through the STS as noted above. The distillates are treated in a zeolite ion exchanger and are discharged to the interceptor and lagoon system.

Post-vitrification operation of the LWTS evaporator is anticipated to volume-reduce wastes from decontamination and decommissioning activities in the Main Plant and Vitrification process buildings. The sodium laden supernatant can also be volume reduced in the LWTS evaporator, as can liquid wastes generated by the Remote Handled Waste Facility.

Cement Solidification System (CSS)

The CSS is located in the 01-14 Building. The radioactive operations of the CSS are confined to three areas of the building: the Waste Dispensing Cell (WDC), the Process Room, and the filled Drum Storage and Loadout Area.

Liquid wastes concentrated in the LWTS are transferred to the CSS and stored in the Waste Dispensing Vessel prior to feeding to the cement mixers. The process room contains the dispensing pump and two high-shear mixers that mix the low-level radioactive waste with cement and chemical additives. Additional equipment in the process room cap and survey the drums to assure that no external contamination exists. The cement drums are remotely staged and loaded onto a shielded vehicle for transport to the RTS Drum Cell for storage.

The CSS has not been operated since completion of sludge wash processing in mid-1995. It is anticipated that future waste streams (i.e., the sodium concentrate solution) may use some or all of the CSS components to either solidify low-level liquid waste (e.g., in containers) or to prepare liquid waste not suitable for vitrification for transfer to another process.

## 3.0 HIGH-LEVEL WASTE VITRIFICATION TREATMENT FACILITY AND STORAGE

**Hazardous waste management units: 3**
**Description codes: (T04) (S01)**

The purpose of the Vitrification System is to solidify, into borosilicate glass, the majority of the radioactive constituents in the HLW generated during Nuclear Fuel Services operations. Following vitrification, the solidified waste is temporarily stored on- site and will be shipped to a federal HLW repository.

### 3.1 Treatment

Solidification of the HLW takes place within the Vitrification Facility, which is located between the Waste Tank Farm and the existing Reprocessing Plant. The primary vitrification process is in a shielded cell within the facility.

The vitrification process is composed of batch make-up and holding vessels, a melter, offgas collection and treatment, and supporting equipment. The major functions of the Vitrification System are:

- Melter feed preparation
- HLW vitrification
- Canister filling, handling, and storage.

Melter Feed Preparation

Melter feed preparation consists of those processes necessary to prepare the HLW, glass formers, and other additives for introduction into the Slurry-Fed Ceramic Melter (SFCM) for vitrification. The homogenized HLW waste mixture is transferred from the HLW tank to the Concentrator Feed Makeup Tank (CFMT) in the Vitrification System. Once transferred, nitric acid and glass formers are added.

The CFMT is the first vessel in the Vitrification System and is the primary station for melter feed preparation. As such, it is the main receiver of all chemical process constituents. These constituents first include HLW from Tank 8D-2, recycled liquids from the Submerged Bed Scrubber (SBS), and liquid recycle streams from the canister decontamination process. Following sampling and analysis, a recipe for chemical addition is prepared, the CFMT contents are concentrated, and the glass-forming chemicals are added. The glass-forming elements are principally silicon, boron, and sodium to which small amounts of glass modifiers may be added. The resultant mixture is transferred to the Melter Feed Hold Tank (MFHT) and then to the Slurry Fed Ceramic Melter (SFCM) where it is vitrified.

Post vitrification, the CFMT can be used as an evaporator to support inventory control for dilute waste streams being accumulated by tank and equipment flushing. The MFHT and CFMT have sampling capabilities and transfer connections to the Waste Tank Farm, and LWTF, enabling process applications during future flushing and decommissioning activities.

HLW Vitrification

The HLW is vitrified with the SFCM. The SFCM is the core of the Vitrification System and operates on the same principal as the large number of commercial electric melters in the glass industry. Molten glass is contained within a cavity formed by a highly corrosion-resistant refractory (Monofrax K-3). The entire refractory assembly is encased in a highly corrosion-resistant Inconel shell. The glass is uniformly heated by passing an alternating current between three electrodes in contact with the molten glass.

In the melter cavity, the feed slurry is normally separated from the molten glass by a crust of dried and calcined waste solids called the cold cap, which usually covers between 70 and 90% of the glass surface. The bulk glass is maintained in the melter cavity at between 1150° to 1200° C and exits the melter through the throat of the discharge section located near the bottom of the melter. Molten glass rises up a tunnel into a separate overflow chamber where it then flows down through a trough and is poured into a receiving canister. The material is then in a state where the hazardous and radioactive constituents are immobilized as a non-leachable, non-hazardous, radioactive waste form.

Canister Filling, Handling, and Storage

Filled canisters are allowed to cool before they are removed from the turntable. The turntable is a device used to position an empty canister beneath the melter pour spout and then to rotate the canister out of the way after it has been filled with molten glass. The turntable can accommodate four canisters. After the filled canister has cooled, it is removed from the turntable and placed at a weld station. Here, a stainless steel lid is welded to the top flange of the canister. The canister is then taken to the radiological decontamination station where it is decontaminated, followed by acid and water rinses. The lid welding and decontamination processes, as well as temporary storage of the stabilized HLW, take place within the Vitrification Process Cell. Canisters are loaded onto a transfer cart and moved to the High Level Waste Interim Storage Cell, which is located in the Main Plant Process Building and connected to the Vitrification Cell by a shielded tunnel. Glass canister storage is required until a federal HLW repository becomes available.

The Vitrification System completed its nonradioactive testing in early 1996 and began processing high-level waste in July 1996. The first phase of Vitrification Operations was conducted between July 1996 and June 1998. More than 200 canisters were filled, effectively stabilizing approximately 84% of the high-level waste curies and immobilizing the hazardous constituents in a non-leachable form.

Current plans for vitrification include processing the remaining curies in the HLW tank heels. Some reclamation of HLW curies, in glass and slurry form, from expended vitrification

components is also on-going. This process, called Vitrification Expended Materials Processing (VEMP), separates glass and slurry contaminated sections of components from the less contaminated sections, and performs gross decontamination of the components. HLW can be held for future disposition, and non-HLW can be size-reduced, segregated, and containerized. This will be followed by processing of HLW tank and vitrification component flush solutions.

Following HLW vitrification, the melter will be placed in a standby mode pending future application during the decommissioning activities. Treatment processes, quantities and the characteristics of the radioactive and hazardous liquid waste generated after vitrification will be evaluated.

### 3.2 Storage

A container storage code has been added to the Vitrification Facility in support of the decontamination and decommissioning activities. Areas such as the Vitrification Cell, High Level Waste Interim Storage, and Analytical & Process Chemistry (A&PC) Hot Cells may be used for storage of limited quantities of high activity radioactive mixed wastes.

Solid wastes generated from activities such as VEMP and decontamination and decommissioning of the Head End Cells (HEC) will be evaluated, characterized, and possibly decontaminated. Depending on the availability of the Remote Handled Waste Facility and off-site treatment and disposal options, containerized wastes may be temporarily stored in the A&PC Hot Cells, Vitrification Cell, and HLW Interim Storage Cell.

## 4.0 CONTAINER STORAGE - BACKGROUND

**Hazardous waste management units: 14**
**Description codes:(S01, T04)**

The following fourteen (14) hazardous/mixed waste container storage units are located at the facility:

- Vitrification Treatment and Storage Facility (see Section 3)
- Lag Storage Building
- Chemical Process Cell Waste Storage Area
- Lag Storage Annex 1
- Lag Storage Annex 2
- Lag Storage Annex 3
- Lag Storage Annex 4
- Interim Waste Storage Facility
- Hazardous Waste Storage Locker 1

- Hazardous Waste Storage Locker 2
- Hazardous Waste Storage Locker 3
- Hazardous Waste Storage Locker 4
- High Integrity Container Storage Area
- Contact Size-Reduction Facility

One (1) storage unit, the Contact Size-Reduction Facility (CSRF), has been identified as a RCRA storage unit to support activities, such as sampling, sorting, and repackaging of radioactive mixed wastes, as required to meet the WVDP Site Treatment Plan milestones under the Federal Facility Compliance Act (FFCA).Two (2) of the 14 storage units, LSA 1 and LSA 2, are designated for potential future storage of hazardous/mixed wastes and debris generated during the deactivation and decommissioning (D&D) activities at the WVDP site. All fourteen (14) storage units may be used, at times, for sorting, packaging, repackaging, and waste sampling activities, based on the WVDP's current and future needs. In addition, treatment in containers such as solidification or neutralization and treatment of debris, such as size reduction, hazardous waste decontamination, stabilization, etc., may be performed in all or some of the storage units at various times. These activities will be performed in accordance with the WVDP site health, safety, and radiological protection policies and procedures.

### 4.1 Lag Storage Building

The Lag Storage Building is a pre-engineered metal structure (Butler Building) supported by a clear span frame and anchored to a 140-foot long x 60-foot wide concrete slab foundation. A 4-inch high concrete curb encloses the inner perimeter. The concrete slab is 10 inches thick at its high point and slopes downward on all sides to a thickness of 8 inches.

The building is located approximately 400 feet to the north of the Main Plant Building. The eave height of the building is 15.7 feet. The roof is sloped with the height of the center ridge being 17 feet. Seven continuous ventilators with dampers (chain-operated) are located on top of the building.

The siding, roofing, gutters and downspouts are constructed of 26-gauge steel. Three 18-gauge steel personnel doors are located around the building. Two 22-gauge metal roll-form slat rollup doors are located at the south and east ends of the building.

The interior walls and ceiling are equipped with 4-inch thick fiberglass insulation containing a light duty vinyl/scrim/foil laminate. The flame spread rating of the laminate is 20, thus making it a Class A insulation. The building is designed to withstand a snow loading of 40 pounds per square foot and a wind velocity of 100 miles per hour. The building was constructed in 1984 and is used for LLW and mixed LLW storage. An adjacent speed space was converted to a Sample Sorting and Packaging area in 1999 for ease of on-going operations.

## 4.2 Chemical Process Cell Waste Storage Area

The Chemical Process Cell-Waste Storage Area (CPC-WSA) storage area consists of a 200 foot long by 70 foot wide by 30 foot high arched, 12-gauge galvanized steel-panel enclosure. The floor of the CPC-WSA is a compacted gravel pad. The storage area inside this structure measures 50-feet wide by 188-feet long by 24-feet high. The CPC wastes are contained in twenty-two (22) separate sealed boxes. These boxes meet the DOT requirements for "strong and tight" packages. The storage array is surrounded by 45 concrete hexagons measuring approximately 7 feet across the flats by 10 feet high. Each hexagonal storage module contains up to twenty-one (21) drums of waste. An additional 13 sealed boxes are stored at the northeast and southwest ends of the storage array.

The boxes stored in the CPC-WSA contain process vessels, pipes, jumpers, and debris removed from the CPC during decontamination operations. The vast majority of this material is stainless steel contaminated with residues from fuel reprocessing activities. Prior to packaging, the large equipment was steam sprayed to remove gross contamination.

The material removed from the CPC produces an appreciable contact exposure rate. Due to the radiation exposure levels, the boxes are shielded by hexagonally shaped concrete overpacks that are filled with high- density, low dose-rate drums providing additional shielding. The drums contain cement-stabilized sludge from the low-level waste treatment plant, LLW contaminated debris, mixed waste, or clean soil, sand, and/or gravel to enhance the shielding capabilities of the concrete overpacks.

## 4.3 Lag Storage Annex 1 and 2 (LSA 1 and LSA 2)

LSA 1 is a pre-engineered frame and fabric enclosure 23-feet high that covers an area 191-feet long by 55-feet wide. The usable area is 170-feet long by 37-feet wide and 14-feet high. The weather structure is constructed using a hot-dipped galvanized steel frame that meets ASTM 123. The fabric is a vinyl-coated polyester that is flame-resistant and self-extinguishing. The structure will support a snow load of 30 pounds per square foot and will withstand a wind velocity of 100 mph. The floor surface of LSA 1 consists of leveled, compacted, fine river gravel. A 22-gauge metal roll-form slat rollup door (14-feet high by 12-feet wide) is located at the south end of the structure. Three 18-gauge steel personnel access doors (3-feet wide by 7-feet high) on the north, south, and east side of the structure are equipped with panic bars. The structure is unheated and has ten (10) continuous dampers located at the top of the span. LSA 1 was built in 1987.

LSA 2 is a hardstand that covers an area of 200-feet long by 65-feet wide. The floor surface of LSA 2 consists of leveled, compacted, fine river gravel. LSA 2 has been used as an empty

container and LLW storage hardstand.

LSA 1 and LSA 2 are intended for storage and treatment in containers of low-level radioactive and mixed wastes, debris, and soil generated mainly during D&D activities.

### 4.4 Lag Storage Annex 3 (LSA 3)

LSA 3 is a clear span structure with a pre-engineered frame and steel sheeting and covers an area of 88- feet wide by 291-feet long. The useable area is 80-feet wide by 283-feet long by 22-feet high. The structure will support a snow load of 40 pounds per square foot and withstand a design wind velocity of 80 mph. A 6-inch high concrete curb encloses the inner perimeter. The concrete slab is 7-inches thick. LSA 3 may be heated by indirect fired, natural gas furnaces as necessary to reduce the impact of the natural freeze-thaw cycle on stored waste.

LSA 3 is intended to store containers of low-level radioactive and mixed wastes. Containers of miscellaneous contaminated equipment, stabilized and partially stabilized drums of sludge from the LLWTF plant, contaminated soil, and stabilized resins and anthracite are stored in this facility.

### 4.5 Lag Storage Annex 4 (LSA 4)

LSA 4 is a clear span structure with a pre-engineered frame and steel sheeting and covers an area 291- feet long by 88-feet wide and 18-feet high. The structure will support a snow load of 40 pounds per square foot and withstand a design wind velocity of 80 mph. LSA 4 has three rollup doors (16 feet wide by 14 feet high) which are located at the south, east, and west side of the facility. A 6-inch high concrete curb encloses the inner perimeter. The concrete slab is 7 inches thick. LSA 4 may be heated by indirect fired, natural gas furnaces as necessary to reduce the impact of the natural freeze-thaw cycle on waste. LSA 4 was built in 1991 as a fabric covered structure; it was converted to a steel covered structure in 1999.

LSA 4 is intended to store containers of low-level radioactive and mixed wastes. Containers of miscellaneous contaminated equipment, stabilized and partially stabilized drums of sludge from the LLWTF plant, contaminated soil, and stabilized resins and anthracite are stored in this facility.

A shipping depot has been constructed to receive standard, flatbed tractor-trailer rigs into the building such that the loading bed of the trailer is level with the floor. The shipping depot is designed to permit loading of containers by fork trucks driving onto the loading dock of the trailer. The depot is connected to the on-site road system by a paved drive, allowing easy access for trucks backing into the dock area. A covered connection has been constructed

between LSA 3 and LSA 4 to facilitate container movements.

LSA 4 houses the Container Sorting and Packaging Facility (CSPF). The 40-feet long by 28-feet wide CSPF is a stand-alone enclosure within the LSA 4 facility. It is constructed of prefabricated, interlocking modular 22-gauge stainless steel panels that form the outside walls, ceiling, and inner partition walls. The concrete floor of LSA 4 serves as the floor of the CSPF. The CSPF consists of a waste sorting room, drum/box load-in/out rooms, and two airlocks for personnel access to and egress from the sorting room. The CSPF is used to sample (if needed), sort, segregate, and repackage low level radioactive and mixed waste. Full drums or boxes containing sorted wastes are decontaminated, if needed, and placed back into storage in the Lag Storage Facilities.

Next to the CSPF is a stand-alone blower room that houses the ventilation system and other components essential to sorting operations. The CSPF ventilation system consists of a 2000 cfm stack system with two nominal cfm blowers that include filters. Two sections of the 6-inch diameter stainless steel are connected to Neederman Fume Extractor. One 14-inch diameter duct is connected to a benchhood. All three exhaust ducts direct ventilated air from the blowers to a locally mounted stack. The stack penetrates the LSA 4 structure before discharging ventilation air to the atmosphere. Air ventilation is monitored through the use of continuous air monitors.

Fire protection systems in the CSPF includes a Very Early Warning Smoke Detector System that detects particles during the pre-combustion stages of a fire, air duct smoke detectors in the ventilation system, and a Clean Agent Fire Suppression System. The fire alarms are monitored through the Central Site Monitoring System by means of the Data Gathering Panel and data transmission lines. Two manual fire pull stations are located in the CSPF, one in the sorting room, and the other mounted immediately outside the CSPF.

### 4.6 Interim Waste Storage Facility

The Interim Waste Storage Facility (IWSF) is located within the NRC Licensed Disposal Area (NDA) area, next to the Interceptor Trench Project. The IWSF is a pre-engineered metal structure measuring approximately 35-feet wide by 35-feet long. It is supported by a clear span frame and anchored to a wide, bermed, concrete slab foundation. An 8-inch high concrete curb encloses the inner perimeter. The siding, roofing, gutters, and downspouts are constructed of 26-gauge steel. Two 18-gauge steel personnel access doors are located at the northwest corner of the building. The interior walls and ceiling are equipped with 4-inch thick fiberglass insulation containing a light duty vinyl/scrim/foil laminate. The flame spread rating of the laminate is 20, thus making it a Class A insulation. The building is designed to withstand a snow loading of 40 pounds per square foot and a wind velocity of 100 miles per hour. The IWSF is heated by two 15 kilowatt (51,000 BTU) electric heaters to prevent natural freeze-thaw cycle. On the northeast

corner of the IWSF is a metal 15-foot long by 10-foot wide 26-gauge lean-to addition with a concrete slab foundation which houses the fire suppression equipment.

The fire control equipment inside the IWSF facility includes portable fire extinguishers. The IWSF stores containers of low-level radioactive and mixed wastes. A separate area is designated within the facility for staging wastes with pending characterization/classification.

For ease of operation and to reduce maintenance and associated costs, the functions of the IWSF may be relocated to other authorized areas on-site. The IWSF will be partially closed if this occurs.

### 4.7 Hazardous Waste Storage Lockers 1 - 4

The Hazardous Waste Storage Lockers (HWSL) are pre-engineered lockers located approximately 200 feet northwest of LSA 1 and 150 feet west of LSA 2.

Each locker is identical in size and measures 8-feet wide by 15-feet long by 8-feet high. The lockers are equipped with a spill basin beneath a steel grate floor with a capacity of 125 gallons (10% of the storage capacity of the locker). They are equipped with fire suppression devices, remote and local fire alarm systems, explosion-proof electrical components, and explosion-proof vents.

The superstructure of the lockers consists of ASTM A Grade 500-B 4-inch tubular steel stock for the base vertical cradle and lifting crown framework. The door openings have a vertical sub-frame of 4-inch tubular steel to prevent deflection displacement and twisting of the steel door and frame. The wall system within the 4-inch tubular steel interior wall panel finish is porcelain enamel steel with 20-gauge galvanized steel studs, base track, and double channel head mount components. The wall system employs a 3 ½-inch fiberglass insulating blanket that serves as a thermal and dust barrier and aids in humidity and noise control. This wall system rates a thermal value of R-12.

Two Underwriters Laboratory (UL)-rated fire dampeners complete with 180 degree fusible link for automatic closure in case of fire are incorporated within the wall system and prevent ventilation during a fire. A 2,500 cfm explosion-proof ventilator is provided for positive air movement. Also incorporated within the enclosure wall system are two approved 20 pounds per square foot explosion relief panels designed to relieve pressure within the building in the event of an accident. The pressure relief panels remain fully watertight under normal conditions. The roofs of the lockers can support a snowload of 40 pounds per square foot. The interior ceiling materials consist of double layer of gypsum board, providing a UL classified 2-hour fire rating.

The fire detection/suppression system consists of a local and remote alarm system as well as a fully automatic dry chemical fire extinguishing system. The system is equipped with heat detectors, a storage cylinder control panel, nozzles, and a mutual remote override station. The HWSL's are intended to store containers of hazardous and non-hazardous wastes. In case the IWSF is closed, the HWSL will be used for storage of mixed waste, if necessary.

### 4.8 High Integrity Container Storage Area

The High-Integrity Container (HIC) storage area is located 50 feet north of the Fuel Receiving and Storage (FRS) building and approximately 100 feet east of the Vitrification Treatment Facility. The fenced, access-controlled approximately 2,000 square foot storage area that consists of a limestone pad, is currently utilized to store HIC's that contain radioactive spent filter media from the FRS pool waste water recirculation unit; one of these HICs also contains radioactive particulates recovered from the FRS pool floor.

The approximately 125-cubic foot capacity RADLOK™ high-integrity container (HIC) is constructed of high density, cross-linked polyethylene. To provide for radiation shielding and secondary containment purposes, after each HIC is filled and sealed in the FRS Hittman Building, the HIC is then overpacked into a SUREPAK™ container. The approximately 70,000 pound SUREPAK™ container is equipped with forklift cutouts for portability and is fabricated of 6,000 psi concrete reinforced with fabric and reinforcing steel and has been designed to withstand weather and environmental exposure. Each filled 9-foot diameter by 9-foot SUREPAK™/HIC contains approximately 100 cubic feet of very high dose rate radioactive waste and weighs approximately 77,000 pounds. In addition to the highly radioactive wastes generated from the FRS pool cleanup and maintenance, other types of highly radioactive mixed wastes (such as spent resins) are stored in the HIC Storage Area.

### 4.9 Contact Size-Reduction Facility

The Contact Size-Reduction Facility (CSRF) is primarily used for volume-reduction of large low-dose rate (<100 mR/hr) equipment resulting from WVDP decontamination activities in the main plant. The CSRF is an approximately 25-feet long by 23-feet wide room in the Master Slave Manipulator (MSM) repair shop. Large pipes and vessels are reduced by a variety of methods, including plasma-arc cutting, portable band saws, and abrasive cutting. Metal decontamination is performed by either high-pressure water spray or by liquid abrasive decontamination spray.

Low Level Radioactive Waste packages to be processed in the CSRF are staged in the north airlock pending a preliminary radiation survey to verify the dose rate is within established limits. Wastes that are determined to be acceptable for processing are then transferred to the cutting room. Following safe storage or removal of flammable material from the cutting room, equipment is size-reduced through the use of a plasma arc torch, band saw, or abrasive cutting

and is then decontaminated, if necessary. Following decontamination, material is air-dried and transferred to an airlock for final survey before it is packed and returned to the Lag Storage Facility for storage pending final disposition off-site.

Ventilation for the CSRF is provided by a room ventilation system and backed up by the Head End Ventilation System (HEV) of the main plant. Room ventilation is provided by a system mounted on the roof of the cutting room. Room ventilation system air flows at a nominal rate of 2.8 cubic meters per second (6000 cubic feet per minute) from the south MSM repair shop, vestibules, and decontamination room into the cutting room, where it is exhausted through an in-cell spark arrestor and roughing filter and a roof mounted filter train consisting of a roughing filter and two HEPA filters in series prior to discharge to a locally mounted stack. Ventilation for the MSM decontamination shower booth and liquid abrasive decontamination system decon booth/survey glove box is provided by the HEV system. (The HEV also provides backup ventilation for the various rooms when the cutting room ventilation discharges to the room ventilation system).

The CSRF is also used for staging, sampling, sorting, consolidating and repackaging mixed waste containers, as required to meet the commitment and milestones under the WVDP Site Treatment Plan. Containers of mixed wastes may be stored at the CSRF while awaiting sampling and/or repackaging.

## 5.0 CONTAINMENT BUILDING - REMOTE-HANDLED WASTE FACILITY

**Hazardous waste management units: 1**
**Description codes; (S06, T94)**

To support completion of the WVDP mission and site closure, many radioactive wastes need to be prepared for final disposition. Some of these wastes currently exist, others will be created during on-going and future Project activities, such as decontaminating the main plant building. Many of these waste streams have or will have high radiation or high surface contamination levels that require remote operations for personnel safety.

There are twenty-four (24) identified waste streams that require remote handling. These waste streams represent waste currently in storage at the WVDP as well as projected future waste streams generated during the closure of the Project. Thirteen (13) of the twenty-four (24) waste streams have been identified for management in a new Remote-Handled Waste Facility (RHWF). Figure 1 depicts the proposed location for the RHWF, and Figure 2 shows the conceptual layout. It is expected that a small portion of these highly radioactive wastes, such as lead counterweights, will be mixed wastes. These mixed wastes would be handled in the RHWF as specified in the WVDP Site Treatment Plan (WVDP-

299) milestones under the FFCA.

The RHWF is considered a RCRA containment building because the wastes will be stored and/or treated directly on the floor or on work tables within the Work Cell. The treatment will consist of mechanical segmenting and/or decontamination. Waste storage in containers may also occur within the containment building pending disposition off-site or to another onsite waste management facility.

The RHWF would include a Receiving Area (Truck Bay), Buffer Cell, Work Cell, Packaging Area, Load-Out Area (Truck Bay), Operating Aisles, Office Area, Contact Maintenance Area, and additional space for expanding the facility to meet operational needs. The RHWF could be expanded, for example, to include an analytical and process chemistry laboratory, waste decontamination system, liquid waste treatment system, temporary waste storage, and/or waste examination equipment (e.g., TRU counter, segmented gamma scanner, and/or collimated shield gamma scan). In general, the RHWF would incorporate three zones of confinement, secondary containment, process ventilation and monitoring, and liquid collection and conveyance.

Receiving Area

Waste containers would be transferred from an on-site storage facility such as the CPC-WSA and loaded into the RHWF through the Receiving Area truck bay. The Receiving Area would provide weather protection while unloading waste containers from transport vehicles (e.g., shielded transport trailers, open flat-bed trailers, fork-lifts) and a secondary buffer area for ensuring the confinement of radioactive contamination. The Receiving Area would also house a bridge crane for unloading the waste containers from the transport vehicles and into the Buffer Cell.

Buffer Cell

The Buffer Cell would function as an air lock between the Receiving Area and the Work Cell and as the means for moving waste containers into the Work Cell. Powered roller conveyers would be installed in the floor of the Buffer Cell to remotely transfer waste containers from the buffer area to the Work Cell. The Buffer Cell would also serve as a radiologically controlled area for contact-handled operations such as over-packing or removing over-sized waste boxes from the Work Cell (e.g., when an over-sized waste package cannot be transferred through the waste transfer system described below).

Work Cell

The Work Cell would serve as the primary work area for remotely handling the waste. The Work Cell would include a bridge crane equipped with a telescoping hoist and mechanical arm as well as two jib cranes equipped with dexterous manipulators for operating a wide range of tools for waste handling, mechanical treatment/segmenting (i.e., size-reducing and/or segregating), packaging (unpackaging,

repackaging), and surveying. Controls for this equipment would be installed in the Operating Aisle at two process stations and one packaging/sample station equipped with shield windows. The Work Cell would also incorporate equipment for decontaminating the in-cell work surfaces, cranes, manipulators, and other waste handling equipment.

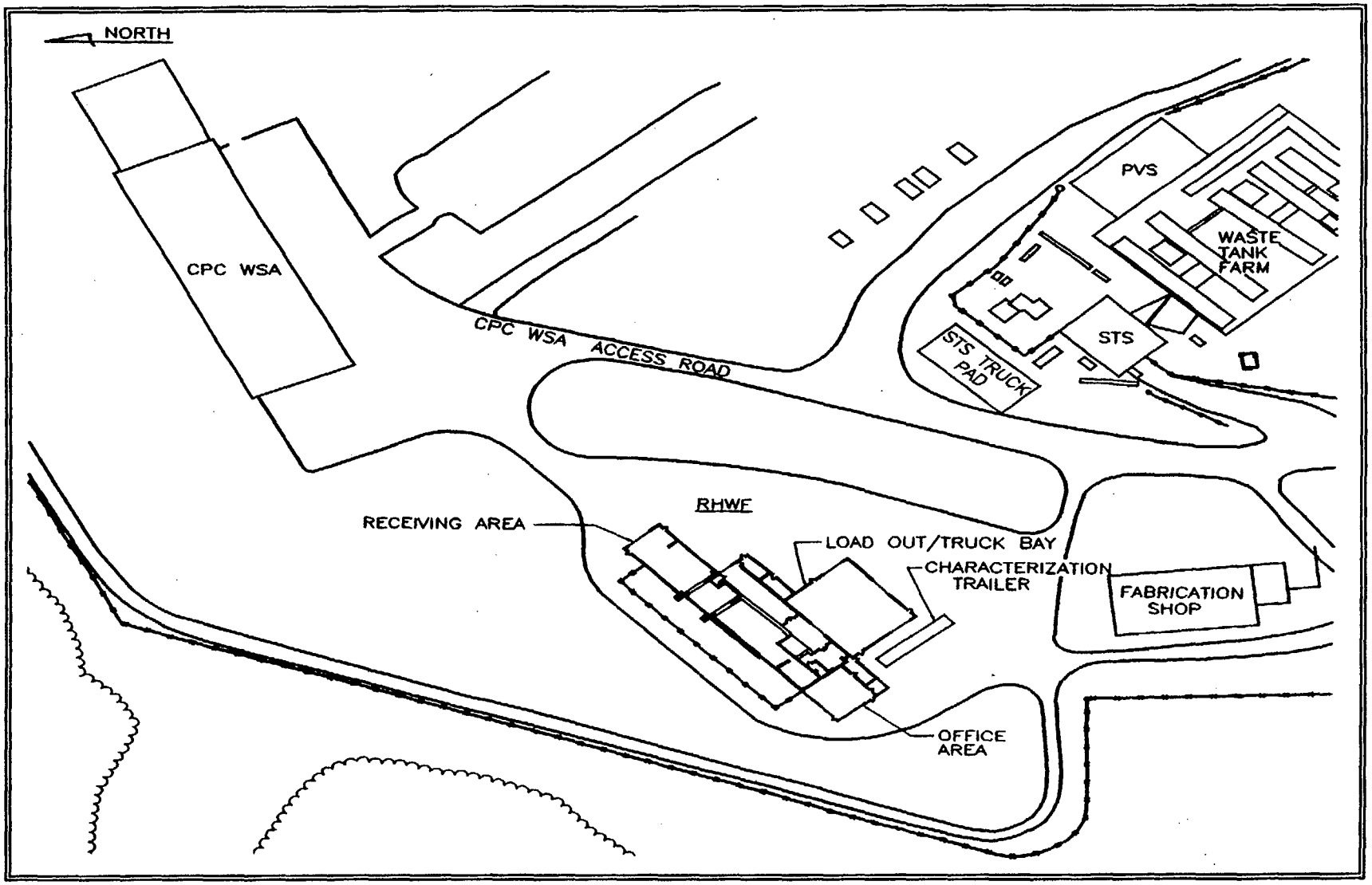
The Work Cell would house a waste transfer system for packaging and removing waste from a radiologically contaminated area, such as the Work Cell, while keeping the exterior of the package free from contamination. Empty containers for packaging/repackaging waste would be loaded into the waste transfer system through the Packaging Area. The transfer system operates by placing an empty container beneath a shielded deck in the Work Cell, and then lifting and interlocking the container to a hatch on the bottom side of the deck. Once interlocked with the hatch, the container lid and hatch door are opened together as a unit, providing remote access to the container interior without exposing the container exterior to the radiologically contaminated Work Cell.

Packaging Area

Besides providing access to the waste transfer system, the Packaging Area would function as the work area for unloading waste packages from the RHWF. Packaged/repackaged waste containers would be unloaded from the waste transfer system through the Packaging Area into the Load-Out Area.

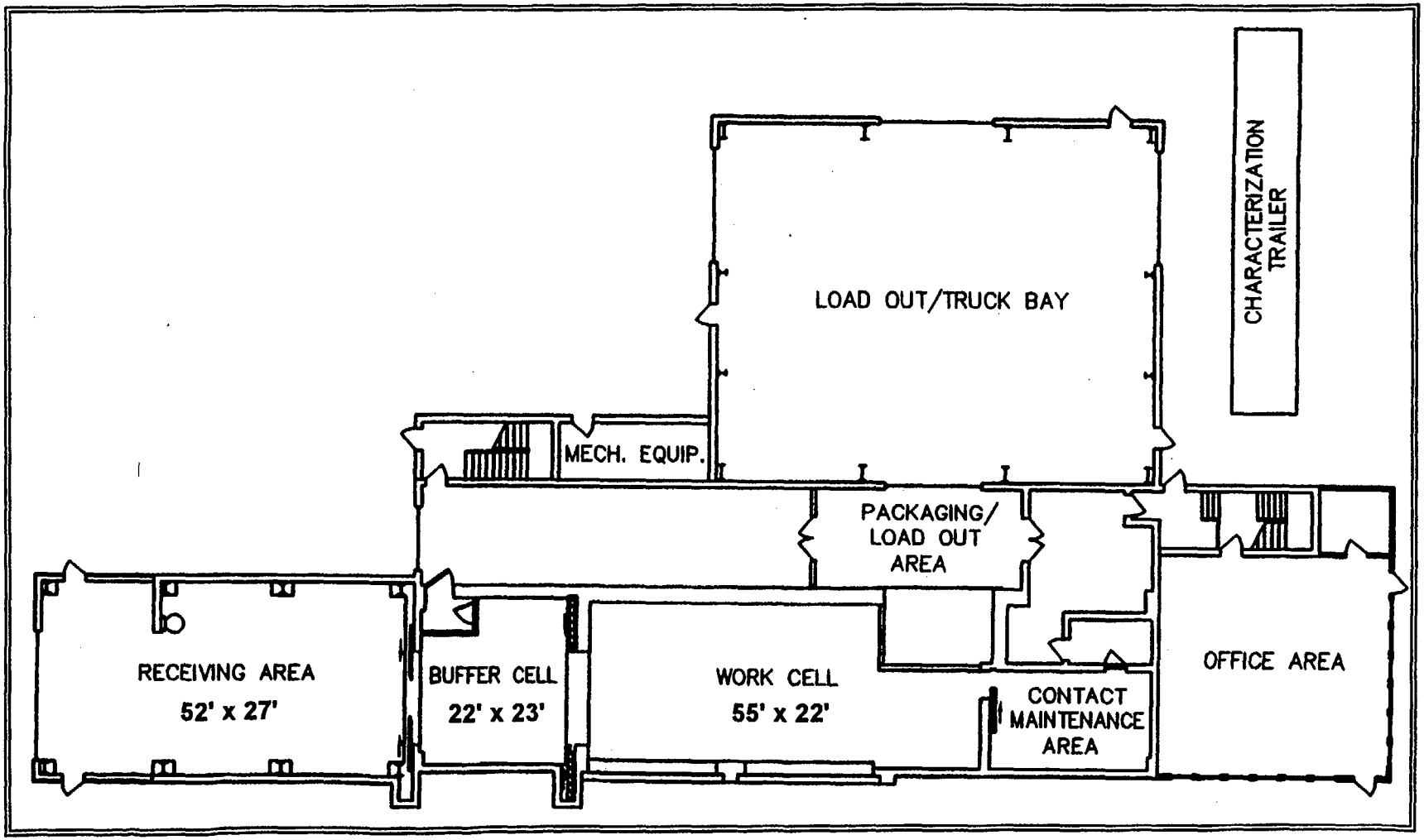
Load-Out Area

Packaged/repackaged waste containers would be loaded onto transport vehicles in the Load-Out Area (Truck Bay) for shipment off-site or to a temporary location on-site. The waste packages would be loaded onto the transport vehicles with forklifts; however, the Load-Out Area could be modified to include a gantry crane, if required to serve this purpose. The Load-Out Area would also serve as a third zone of confinement since the airlock design of the waste transfer system in the Packaging Area would provide a secondary buffer area.




Not drawn to scale

Figure 1. Proposed Location for the Remote-Handled Waste Facility (North Construction Hardstand)




Not drawn to scale

Figure 2. Conceptual Design and Layout for the Remote-Handled Waste Facility

ATTACHMENT C

SECTION XV

WEST VALLEY DEMONSTRATION PROJECT

SITE DRAWINGS AND TOPOGRAPHIC MAPS

1. WVDP Site Map
2. Surface Water Runoff Map, West Valley Demonstration Project/State Disposal Area
3. Groundwater Wells and Hydrology
4. USGS Topographic Map for Ashford Hollow
5. USGS Topographic Map for West Valley


## LEGEND

**Interim Status Treatment and Storage Units**

1. High Level Waste Tanks
   - 1a Tanks 8D-1 and 8D-2: S02 & T01
   - 1b Tanks 8D-3 and 8D-4: S02 & T01
2. Integrated Radioactive Waste Treatment System (IRTS): T01 & T04
   - 2a Supernatant Treatment System (STS)
   - 2b Liquid Waste Treatment System (LWTS)
   - 2c Cement Solidification System (CSS)
3. High Level Waste Vitrification Treatment Facility: T04 & S01
4. LAG Storage Building: S01 & T04
5. Chemical Process Cell Waste Storage Area: S01 & T04
6. LAG Storage Extensions: S01 & T04
   - 6a LSA1
   - 6b LSA2
7. LAG Storage Additions: S01 & T04
   - 7a LSA3
   - 7b LSA4 & SHIPPING DEPOT
8. Interim Waste Storage Facility (IWSF): S01 & T04
9. Hazardous Waste Storage Lockers 1 to 4: S01 & T04
10. High Integrity Container (HIC) Storage Area: S01 & T04
11. Contact Size-Reduction Facility (CSRF): S01 & T04
12. Future Location, Remote Handled Waste Facility (RHWF): S06 & T94

Fence

Site Roads

Rail Spur

Drainage Swales and Streams

Contour Interval = 5 Feet

0 100 200 400 FT

GRAPHIC SCALE

REVISIONS

| REV. | DESCRIPTION | APVD |
|---|---|---|

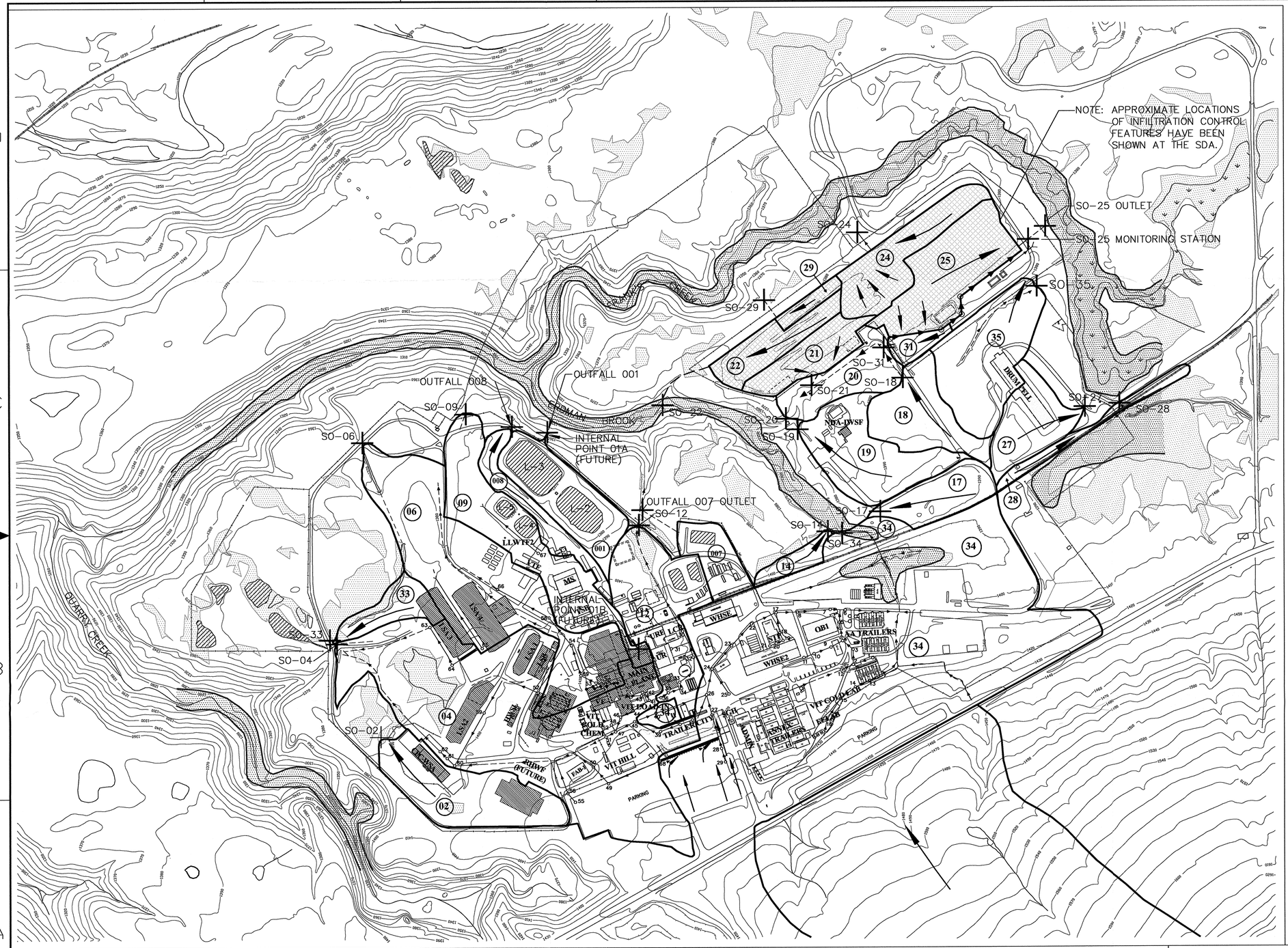
# WVDP SITE MAP

WEST VALLEY DEMONSTRATION PROJECT/STATE DISPOSAL AREA

FILE NAME SSD15

9/22/2000

CAD DRAWING-DO NOT REVISE THIS ORIGINAL




## LEGEND

- APPROXIMATE ROOF DRAIN LOCATION
- INFERRED DIRECTION OF FLOW
- DRAIN INLET
- APPROXIMATE STORM SEWER LOCATION
- APPROXIMATE DRAINAGE DITCH LOCATION
- DRAINAGE SWALE AND STREAMS
- INFILTRATION CONTROL MEMBRANE COVERED AREA
- 100 YEAR FLOOD PLAIN BOUNDARY
- INFILTRATION CONTROL COMPACTED CLAY/ SUBSURFACE
- WETLAND BOUNDARY
- INTERIM STATUS TREATMENT AND STORAGE UNITS
- LAGOONS AND PONDS
- STORMWATER DISCHARGE OUTFALL (SO)
- GENERAL DIRECTION OF COLLECTED/DIRECTED STORM WATER FLOW (STORM EVENTS MEETING NPDES SPDES CRITERIA)
- DRAIN PIPE FROM SUBAREAS
- DRAINAGE SUBAREAS
- (5) DRAINAGE SUBAREA DESIGNATION
- TRENCH DRAIN INLET
- FENCE

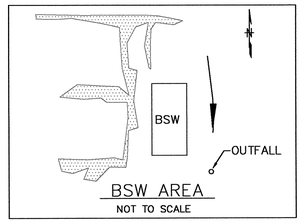
NOTES:

1. THIS DRAWING IS FOR REFERENCE USE ONLY.
2. THE LOCATIONS OF SOME BUILDINGS ARE APPROXIMATE.

SITE STORM SEWER FLOW DIRECTIONS AND DRAIN INLET LOCATIONS WERE IDENTIFIED FROM THE FOLLOWING:

- DWG 900D-5077 REVISION 3 SHEET 1 OF 17
- DWG 900D-3035 REVISION 17 SHEET 1 OF 9
- DWG 900D-3035 REVISION 4 SHEET 2 OF 6
- DWG 900D-3035 REVISION 0
- DWG 900D-311 REVISION 0 SHEET 1 OF 1
- DWG 900D-2729 REVISION 2 SHEET 1 OF 1
- DWG 900D-2961 REVISION 6 SHEET 1 OF 1
- DWG 900D-5375 REVISION 1 SHEET 1 OF 1
- SKETCHES PREPARED FOR MAIN PARKING LOT DRAINAGE DIVERSION PROJECT
- LIMITED SITE RECONNAISSANCE

STORM SEWER FLOW DIRECTIONS WERE DETERMINED FROM INFORMATION CONTAINED IN FACILITY DRAWINGS AND VISUAL OBSERVATIONS OF PIPE OUTFALL DEPTHS IN DRAIN INLETS, FLOW DIRECTIONS COULD NOT BE DETERMINED FOR ALL PIPE SECTIONS.




BSW AREA
NOT TO SCALE

REVISIONS

| REV | DESCRIPTION | APVD |
|---|---|---|

SOURCE:
THIS DRAWING WAS COMPILED FROM THE FOLLOWING DRAWINGS:
5000d003.dwg
10209550.DWG
6162.DWG

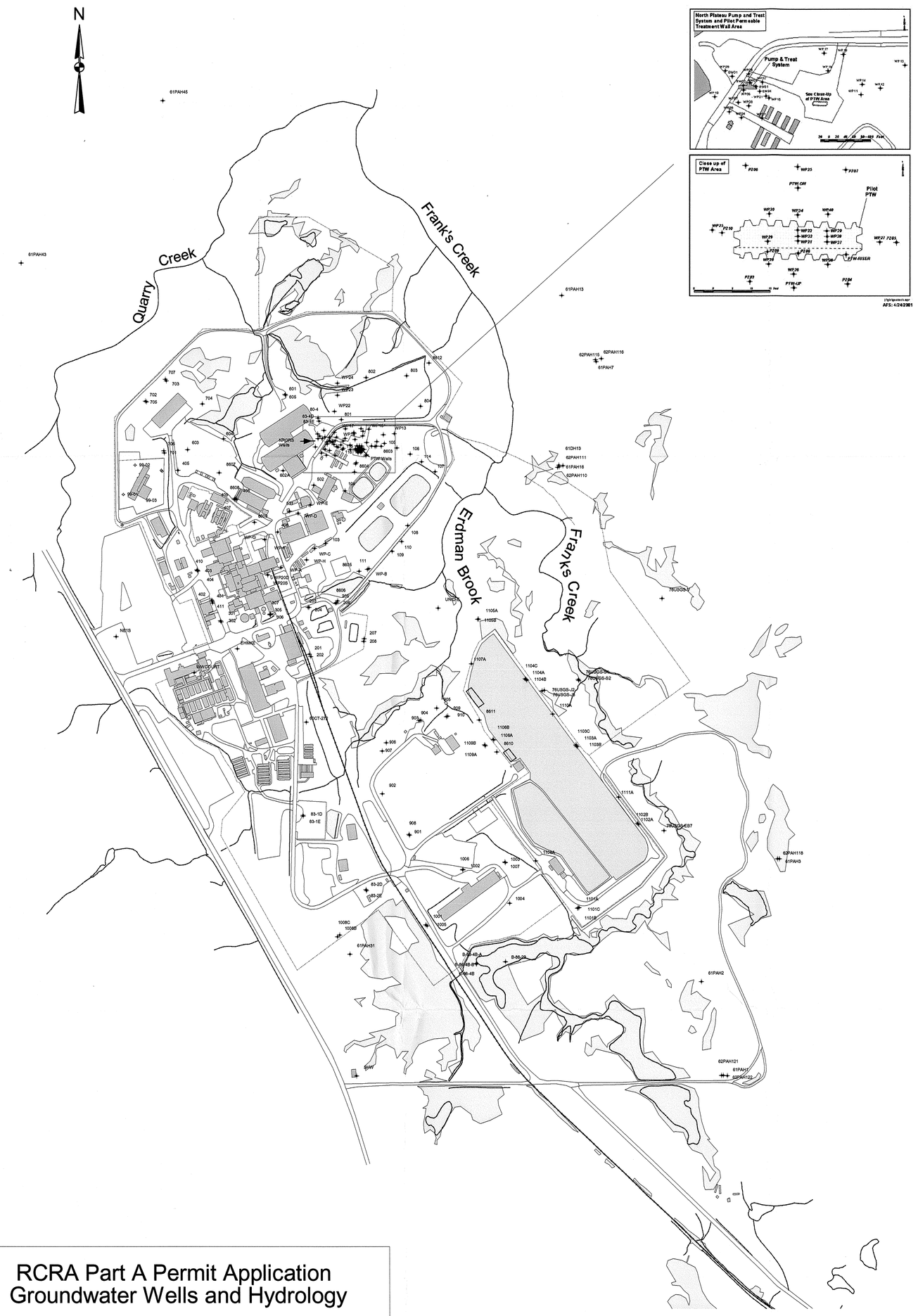
200 0 200 400
SCALE IN FEET

# RCRA PART A PERMIT APPLICATION
# SURFACE WATER RUNOFF MAP
WEST VALLEY DEMONSTRATION PROJECT/STATE DISPOSAL AREA

FILE NAME SSD18
SCALE 1"=200'
5/01/2001

CAD DRAWING-DO NOT REVISE THIS ORIGINAL

j:\gis\rcra_permit.apr: 12/2001




# RCRA Part A Permit Application
# Groundwater Wells and Hydrology

- RHWF Borings/Water Level Wells
- Groundwater Wells
- WVDP Roads
- WVDP Rail Line
- WVDP Buildings
- WVDP Fenceline
- WVDP Hydrology
- Wetland Areas
- Geomembrane Cover

rev. 1 4/24/2001

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

STATE OF NEW YORK
DEPARTMENT OF PUBLIC WORKS

# WEST VALLEY QUADRANGLE
NEW YORK–CATTARAUGUS CO.
7.5 MINUTE SERIES (TOPOGRAPHIC)

Mapped, edited, and published by the Geological Survey

Control by USGS and USC&GS

Topography by photogrammetric methods from aerial photographs taken 1962. Field checked 1964

Polyconic projection. 1927 North American datum
10,000-foot grid based on New York coordinate system, west zone
1000-metre Universal Transverse Mercator grid ticks,
zone 17, shown in blue

Fine red dashed lines indicate selected fence and field lines where generally visible on aerial photographs. This information is unchecked

Area covered by dashed light-blue pattern is subject to controlled inundation

UTM GRID AND 1964 MAGNETIC NORTH DECLINATION AT CENTER OF SHEET

SCALE 1:24 000

CONTOUR INTERVAL 20 FEET
NATIONAL GEODETIC VERTICAL DATUM OF 1929

ROAD CLASSIFICATION
Heavy-duty
Medium-duty
Light-duty
Unimproved dirt
State Route

QUADRANGLE LOCATION

WEST VALLEY, N. Y.
N4222.5—W7830/7.5
1964
AMS 5268 I NE–SERIES V821

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

STATE OF NEW YORK
DEPARTMENT OF PUBLIC WORKS

# ASHFORD HOLLOW QUADRANGLE
NEW YORK
7.5 MINUTE SERIES (TOPOGRAPHIC)

Mapped, edited, and published by the Geological Survey

Control by USGS and USC&GS

Topography by photogrammetric methods from aerial photographs taken 1962. Field checked 1964

Polyconic projection. 1927 North American datum
10,000-foot grid based on New York coordinate system, west zone
1000-meter Universal Transverse Mercator grid ticks,
zone 17, shown in blue

Fine red cashed lines indicate selected fence and field lines where generally visible on aerial photographs. This information is unchecked

**There may be private inholdings within the boundaries of the National or State reservations shown on this map**

Revisions shown in purple and woodland cultivated from aerial photographs taken 1978 and other source data. This information not field checked. Map revised 1979

SCALE 1:24000

CONTOUR INTERVAL 20 FEET
NATIONAL GEODETIC VERTICAL DATUM OF 1929

UTM GRID AND 1979 MAGNETIC NORTH DECLINATION AT CENTER OF SHEET

THIS MAP COMPLIES WITH NATIONAL MAP ACCURACY STANDARDS
FOR SALE BY U.S. GEOLOGICAL SURVEY, RESTON VIRGINIA 22092
A FOLDER DESCRIBING TOPOGRAPHIC MAPS AND SYMBOLS IS AVAILABLE ON REQUEST

QUADRANGLE LOCATION

ROAD CLASSIFICATION

| | |
|---|---|
| Primary highway, all weather, hard surface | Light-duty road, all weather, improved surface |
| Secondary highway, all weather, hard surface | Unimproved road, fair or dry weather |
| Interstate Route | U.S. Route |
| State Route | |

ASHFORD HOLLOW, N. Y.

N4222.5—W7837.5/7.5

1964
PHOTOREVISED 1979
AMS 5268 I NW—SERIES V821

ATTACHMENT D

SECTION XVI

FACILITY DRAWING SHOWING TREATMENT AND STORAGE UNITS
(11 in. x 17 in. WVDP Site Map)


## LEGEND

**Interim Status Treatment and Storage Units**

1. High Level Waste Tanks
   - 1a Tanks 80-1 and 80-2: S02 & T01
   - 1b Tanks 80-3 and 80-4: S02 & T01
2. Integrated Radioactive Waste Treatment System (IRTS): T01 & T04
   - 2a Supernatant Treatment System (STS)
   - 2b Liquid Waste Treatment System (LWTS)
   - 2c Cement Solidification System (CSS)
3. High Level Waste Vitrification Treatment Facility: T04 & S01
4. LAW Storage Building: S01 & T04
5. Chemical Process Cell Waste Storage Area: S01 & T04
6. LAW Storage Extensions: S01 & T04
   - 6a LSA1
   - 6b LSA2
7. LAW Storage Additions: S01 & T04
   - 7a LSA3
   - 7b LSA4 & SHIPPING DEPOT
8. Interim Waste Storage Facility (IWSF): S01 & T04
9. Hazardous Waste Storage Lockers 1 to 4: S01 & T04
10. High Integrity Container (HIC) Storage Area: S01 & T04
11. Contact Size-Reduction Facility (CSRF): S01 & T04
12. Future Location, Remote Handled Waste Facility (RHWF): S06 & T84

Fence

Site Roads

Rail Spur

Drainage Swales and Streams

REVISIONS

# WVDP SITE MAP

WEST VALLEY DEMONSTRATION PROJECT/STATE DISPOSAL AREA

FILE NAME: 03010

9/22/2000

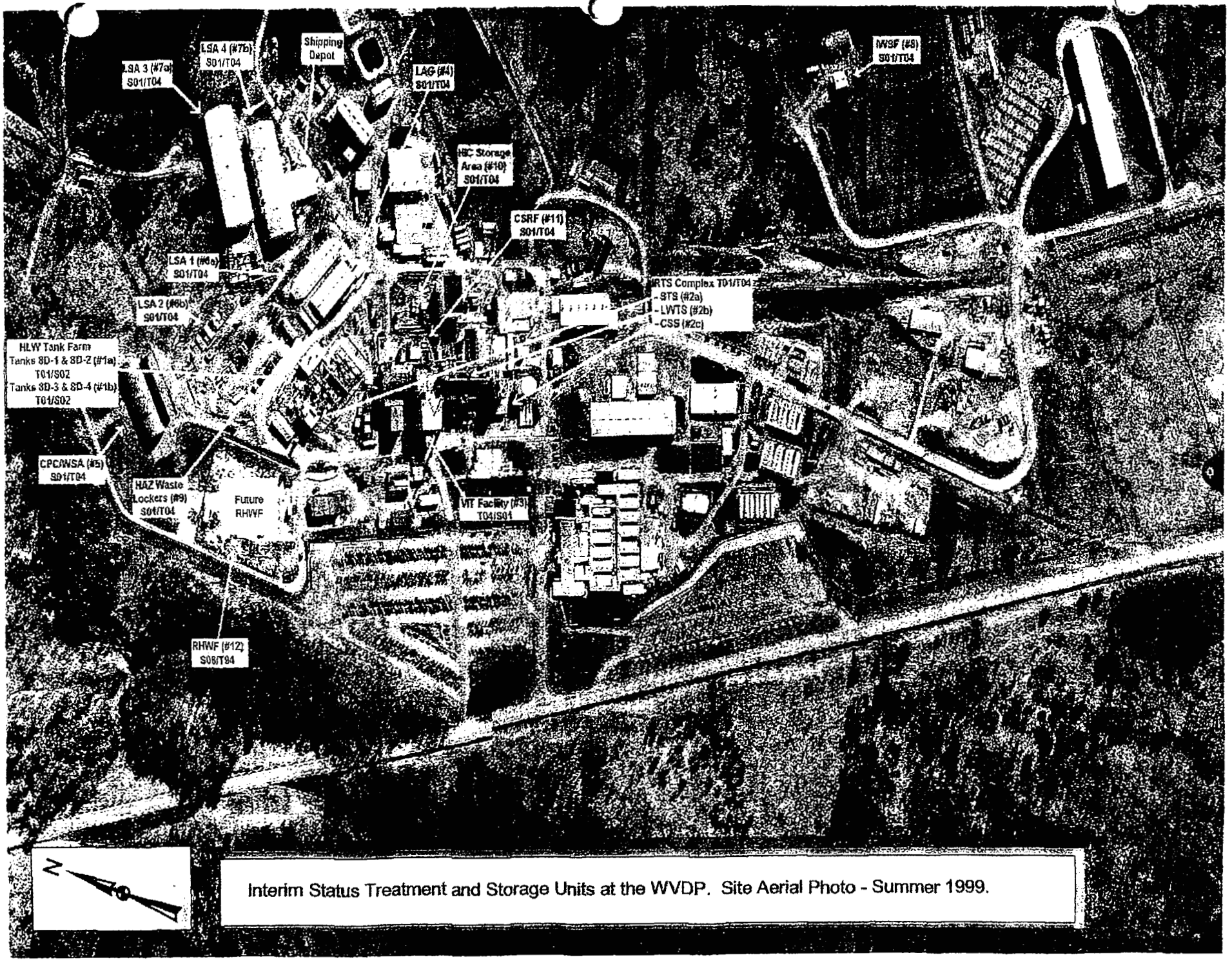
CAD DRAWING-DO NOT REVISE THIS ORIGINAL

ATTACHMENT E

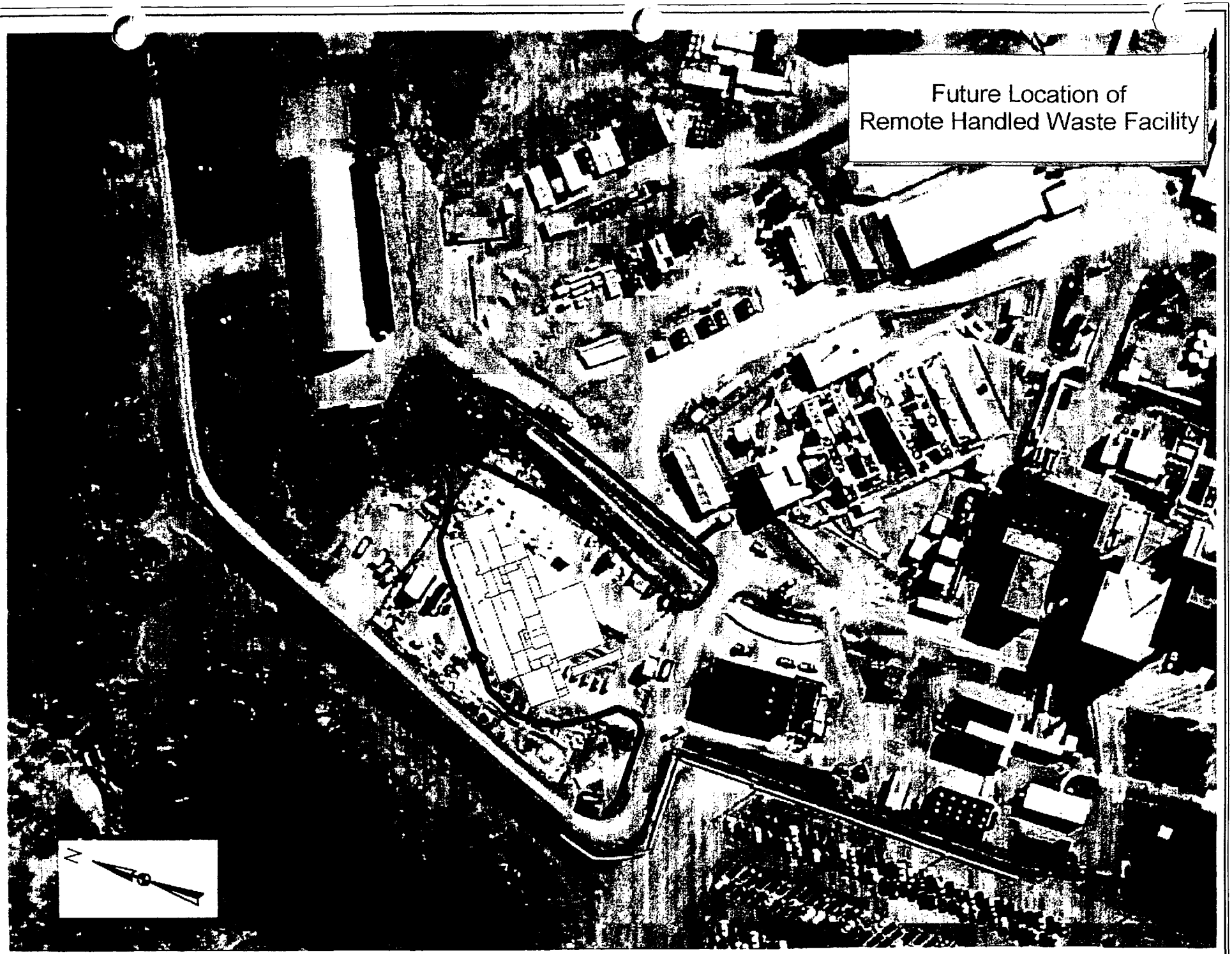
SECTION XVII

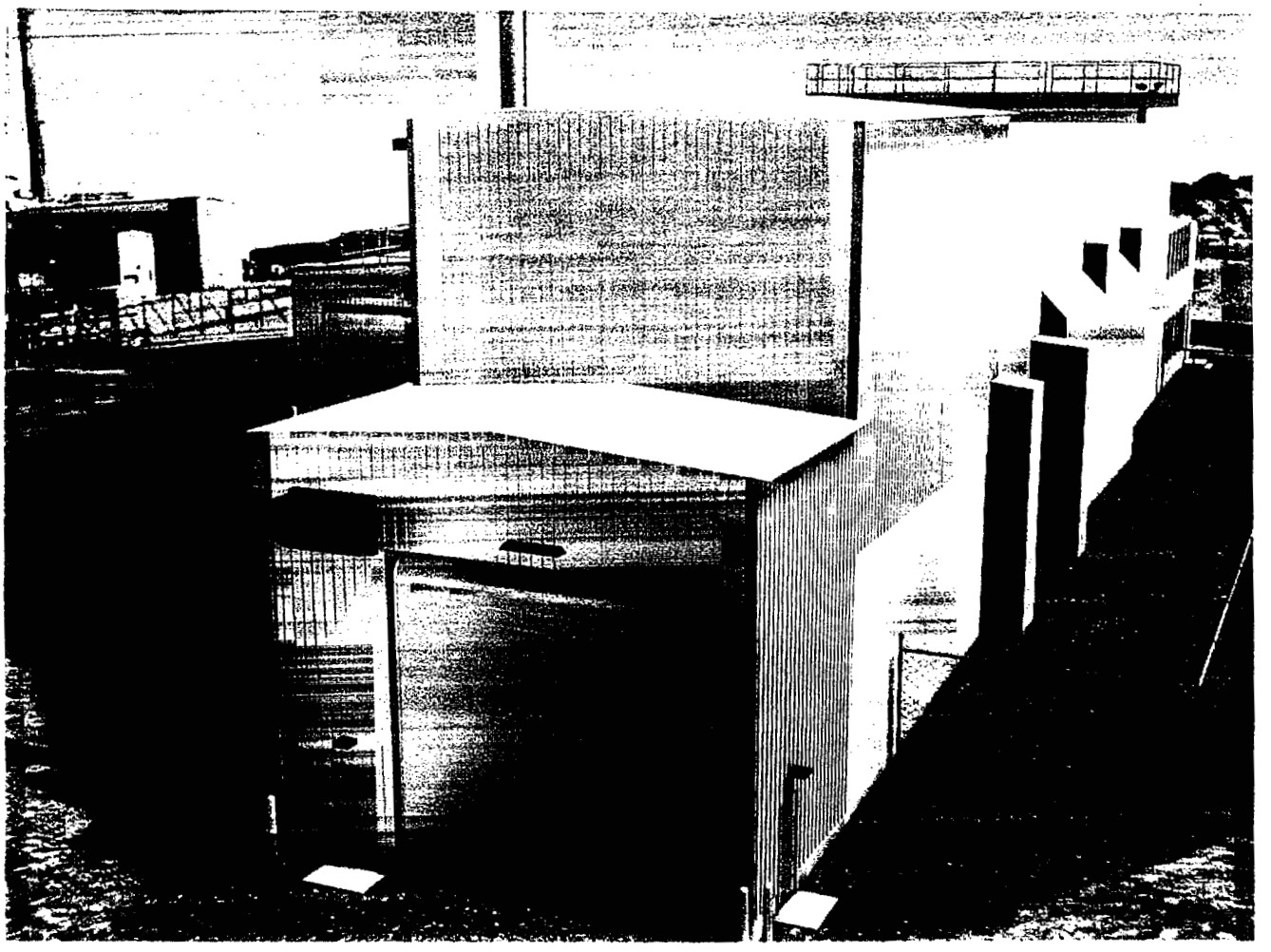
PHOTOGRAPHS

1. Interim Status Treatment and Storage Units at the WVDP Site Aerial Photograph - Summer 1999
2. Future Location of Remote Handled Waste Facility
3. Computerized Rendition of the Future Remote Handled Waste Facility




Interim Status Treatment and Storage Units at the WVDP. Site Aerial Photo - Summer 1999.


Future Location of
Remote Handled Waste Facility
N



Computerized Rendition of the Future Remote-Handled Waste Facility